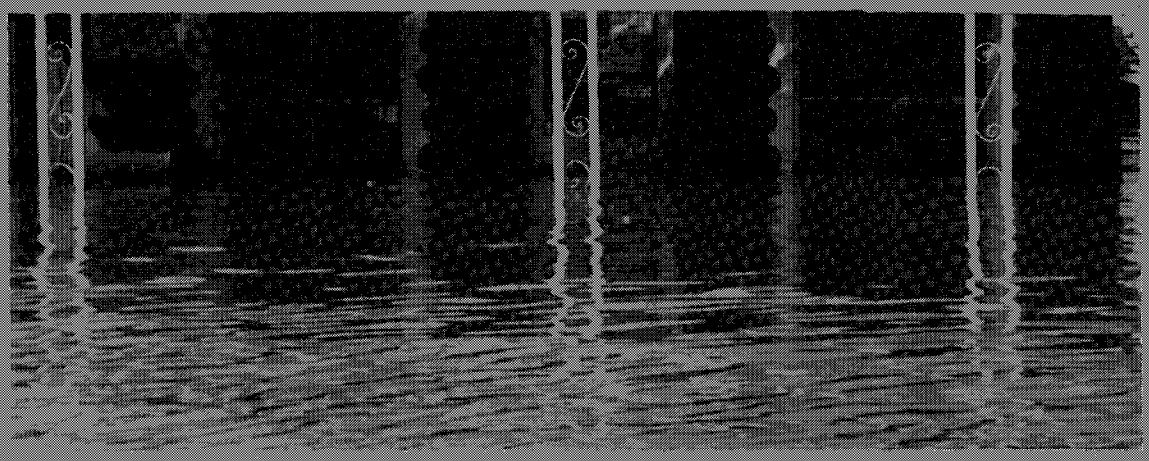
REPORT ON FLOODING AND FLOOD RELATED DAMAGES

SANTA CLARA COUNTY



JANUARY 1 TO APRIL 30, 1983

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REPORT ON FLOODING AND FLOOD RELATED DAMAGES

IN SANTA CLARA COUNTY

January 1 to April 1, 1983

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October 11, 1983

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INTRODUCTION

Significant flooding occurred in Santa Clara County as a result of the storms of January 22-30, February 5-8, and February 28 through March 4, 1983. After the January flooding, the Governor of California issued a State of Emergency Declaration and the President of the United States issued a Declaration of a Major Disaster for Public Assistance. Both documents included Santa Clara County and were extended to cover the storms of February and March. The inclusive dates of the declarations are January 21 through March 30, 1983.

The January storm caused flooding in many areas of the County. In the northwest portion of the County, overbanking occurred on Matadero, Barron, Adobe and Purissima Creeks causing property damage in the Cities of Palo Alto, Los Altos and Los Altos Hills. In the central area of the County, overbanking occurred on the Guadalupe River at Alma Street, on Calabazas Creek at several locations and on Sunnyvale East and Sunnyvale West Channels, causing damage to homes and businesses in San Jose, Cupertino and Sunnyvale. Several homes were also damaged by flooding from the Coyote-Alamitos Canal. On the east side of the valley, significant flooding occurred from Coyote Creek, Berryessa Creek, Lower Penitencia Creek, Upper Penitencia Creek, Los Coches Creek and Sweigert Creek, causing property damage in the Cities of San Jose and Milpitas. Several other east valley tributaries overbanked causing minor street flooding. In the south part of the County, several areas in and around the Cities of Morgan Hill and Gilroy adjacent to Uvas Creek, Llagas Creek and their tributaries experienced flooding.

The storm of February 5-8 caused flooding in the Lower Coyote Creek area. Shallow floodwater inundated farm land to the east and west of Coyote Creek northerly of Highway 237.

The third storm event at the end of February caused severe flooding in the northerly portions of San Jose, including Alviso and the City of Milpitas. Flows again overtopped the banks along the lower reaches of Coyote Creek, Lower Penitencia Creek

in Milpitas and Upper Penitencia Creek at several locations. Minor flooding also occurred in the City of Palo Alto from Barron and Adobe Creeks. Flooding from Permanente Diversion occurred due to the plugging and sudden unplugging of an outlet from a private detention pond on an upstream reach of Permanente Creek.

The Santa Clara County Office of Emergency Services reported that for all 1983 storms about 468 homes and 166 businesses were flooded and damage estimates exceeded $20.8 million. In addition, it was reported that at least 1900 people were evacuated from their homes. The summary of damages from the above storm periods are contained in Table V.

Generally, the statistical recurrence frequencies of peak flows for the creeks that flooded in the three storm periods varied from less than two years to 25 years compared to the 100-year criterion commonly used for flood protection design. It is estimated that over $400 million in damages would occur in Santa Clara County as a result of the 100-year flood, or one percent event.

Throughout the report, reference is made to "4-year floods" or "10-year floods" or "100-year floods". This is a shorthand description of flood events and does not mean that flooding will occur every four or ten years or 100 years but rather that this frequency of occurrence could be expected statistically on the average over a period of many years. The frequency is also often expressed as a percentage. Thus, a 100-year flood is said to be a one percent flood, that is, a flood having a one percent chance of occurring in any year.

Rainfall and streamflow data for the above storm periods, along with historical data for District precipitation and streamflow stations, are contained in Tables I, II, III and IV.

Santa Clara Valley Water District owns and operates eight reservoirs in Santa Clara County having a combined storage capacity of about 155,000 acre-feet. These reservoirs were authorized and built for the purpose of conserving local water

resources. The reservoirs have spillways designed to safely carry into the creek channels high flows which would otherwise overtop the dam. During the 1983 storms, these reservoirs substantially reduced the flood peaks. An empty reservoir, or one partially full, will obviously hold back some of the flood flows from upstream but even a full reservoir has a flood attenuating function. The water flowing into it cannot move through and out the spillway until it has ponded - - spread out over the surface of the lake - - and thus raised the whole lake level. The result is a delay and a reduction (attenuation) of peak flows downstream of the reservoir.

The approximate flooded areas were mapped from aerial photos and visual reports. These maps are included in this report and are intended to provide only general flooding information. In most of the maps, the flooded areas are primarily the result of overbanking. In some cases however, flooded areas include water resulting from drainage problems. Streets may not be able to drain, for example, due to high water in the creek and a resulting backup of the storm drain system, or natural land may be contoured such that ponding results. In addition to the maps, a few representative pictures are also included.

STORMS OF JANUARY 22-30, 1983

A series of storms starting Saturday, January 22, brought significant rainfall to the Santa Clara Valley. The heaviest rainfall continued through Tuesday, January 25, and tapered off through January 30. Rainfall during the above storm period ranged from 16.6 inches on the west side of the valley to 9.4 inches in the south and 5.8 inches in the east. Flooding and erosion occurred along many creeks.

Matadero Creek

This creek flows easterly through the City of Palo Alto. The USGS streamgage station on Matadero Creek at El Camino Real recorded a peak flow of 1,710 c.f.s. on January 26, corresponding to a 25-year flood frequency. Floodwaters left Matadero Creek at seven locations; Matadero Avenue upstream of El Camino, Alma Street, Middlefield Road, Cowper Avenue, Ross Road and Louis Road. Several homes near Matadero Avenue and the Flamingo Motel upstream of El Camino Real experienced minor flooding. Extensive erosion also caused damage to private and public property undermining retaining walls and one private bridge.

Barron Creek

On Sunday evening, January 23, floodwaters overbanked from Barron Creek at Laguna Avenue and affected 90 acres of residential area between Laguna Avenue and El Camino Real. In addition to major street flooding several homes suffered water damage from flows which overtopped the creek banks.

Representatives of the Barron Park Association prepared a summary of damages shortly after the flooding. Their figures showed that at least 60 residences and businesses were affected, with damages ranging from $100 up to $22,000 for a preliminary estimated total of $100,000. It was reported that one home flooded inside to a depth of 30 inches. Early Wednesday evening, January 26, Barron Creek overbanked again, causing additional flood damage.

Adobe Creek

Minor street flooding occurred from Adobe Creek along Moody Road near Rhus Ridge Road, at Milverton Road, and at Edith Road in Los Altos Hills. It was reported that the senior citizens center in Shoup Park in Los Altos was flooded. Emergency sandbagging was done to mitigate damage to the facility and pumps were used to empty the basement.

Purissima Creek

Minor street flooding occurred from Purissima Creek downstream of Highway 280 along O'Keefe Lane in Los Altos Hills.

Guadalupe River

On January 24, Guadalupe River overbanked the easterly levee upstream of Alma Street in San Jose and both the easterly and westerly levees downstream of Alma Street. This overbanking mingled with local drainage on the streets and caused widespread flooding of about 15 acres from the Elks Lodge on Alma Street to West Virginia Street, and east of the river to the Southern Pacific Railroad tracks and McLellan Avenue. It was reported that there was about one foot of water inside the San Jose Elks Lodge on Alma Street. The Alma Street and Willow Street undercrossings of the Southern Pacific Railroad bridges experienced about ten feet of flooding. High flows also caused extensive erosion damage including one failed retaining wall along Old Almaden Road. The peak flow recorded on the Guadalupe River at Almaden Expressway on January 24 was about 8,400 c.f.s which corresponds to a 17-year flood frequency. The creek downstream near Alma Street has a capacity to contain a flow corresponding to about a five-year flood frequency.

Calabazas Creek

Calabazas Creek flows northerly through the Cities of Cupertino, Santa Clara and San Jose. The peak flow recorded on Calabazas Creek at Wilcox High School was 2500

c.f.s., which corresponds to a 12-year flood frequency. Minor street flooding adjacent to Calabazas Creek was reported at three locations: Bollinger Road in San Jose and at Homestead Avenue and Highway 237 in Santa Clara. More extensive street flooding and water damage to the Fountainbleu Apartments in Cupertino was reported to have occurred from overbanking at Miller Avenue.

Sunnyvale East Channel

Overbanking occurred north of Evelyn Avenue in Sunnyvale on the west bank flooding an access tunnel of California Cannery and Growers.

Sunnyvale West Channel

Overbanking occurred on both banks of Sunnyvale West, upstream of Caribbean Drive in Sunnyvale causing flooding of streets and parking lots. Water damage to at least one business was reported. This flooding was apparently due primarily to the high tide which occurred on January 27, 1983.

Coyote-Alamitos Canal

Mud and debris carried by storm runoff blocked culverts in the Coyote-Alamitos Canal causing flooding to homes adjacent to the canal.

Coyote Creek

Coyote Creek flooded in San Jose between Highway 237 and the Bay during the January storm on both the west and east sides of the creek. Flooding affected over 200 acres of agricultural land including farm buildings and several homes. Two District reservoirs, Anderson and Coyote, located on the upstream reaches of Coyote Creek filled and eventually spilled during this storm period.

Berryessa Creek

Berryessa Creek flows northwesterly through the Cities of San Jose and Milpitas. Major flooding from this creek occurred on Saturday, January 22. Overbanking occurred

from upstream of Old Piedmont Road to upstream of New Piedmont Road in San Jose causing extensive street flooding and damage to fences, automobiles and landscaped yards. It was reported that at least four homes suffered water and sediment damage. Overbanking also occurred immediately upstream and downstream of Montague Expressway and between Yosemite Drive and Calaveras Boulevard in Milpitas. It was reported that at least six businesses suffered water and sediment damage from flooding in this commercial/industrial area. Floodwaters eventually made their way westerly and flooded the streets and parking lots in the vicinity of Abel and Marylinn Streets in Milpitas.

A great deal of debris and sediment was transported with the floodwaters. District crews removed approximately 15,500 cubic yards of sediment from the channel in the month following the storm, leaving several thousand cubic yards to be removed during the summer months.

Lower Penitencia Creek

Lower Penitencia Creek in Milpitas went over its banks in several locations. At Redwood Avenue overbanking reportedly contributed to local storm drainage flooding the streets from Redwood Avenue to Marylinn Street, and from the creek west toward Highway 17. The water also flowed toward the Dixon Landing Business Park north of Redwood Avenue and mingled with other water from overbanking at two locations north of San Andreas Drive. This flooding was mainly street flooding: no homes reported water damage. The District's project currently under construction in this area will remedy most of this flooding.

Upper Penitencia Creek

Upper Penitencia Creek in East San Jose experienced a peak flow at Piedmont Road on January 26 of about 1,400 c.f.s. This corresponds to a 15-year flood frequency. Overbanking occurred downstream of King Road, contributing to the local storm drainage

ponding in the Flea Market and in the industrial area east and west of the Western Pacific Railroad and north of Mabury Road. It was reported that Mt. Green Nursery experienced flooding up to 18 inches deep.

Los Coches Creek

Flooding occurred on January 22 at two locations adjacent to Los Coches Creek in Milpitas. Debris blocked the Old Piedmont Road bridge causing overbanking and extensive flooding of yards and streets adjacent to the creek. Overbanking also occurred upstream of Dempsey Road which runs along the east side of Highway 680, causing street flooding and water damage to one commercial building.

Sweigert Creek

Flooding occurred on January 22 at Old Piedmont Road in San Jose. Instead of flowing into a City of San Jose storm drain pipe, floodwater crossed the road, flowed through the driveways of a townhouse complex and down Bloomsbury Road, crossed Piedmont Road and flooded streets in the vicinity of Isadora Drive and Majestic Way. Eventually, the floodwaters reached Morrill Avenue by way of Knightsbridge Road and mingled with floodwaters from Berryessa Creek that had flowed down Cropley Avenue from Old Piedmont Road. No homes were reported to have suffered water damage. Floodwaters were accompanied by heavy sediment load which was deposited throughout the floodplain.

Crosley Creek

Overbanking from Crosley Creek in San Jose on January 22 caused street flooding on Old Piedmont Road and adjacent streets.

Sierra Creek

Overbanking from Sierra Creek in San Jose on January 22 at Onslow Way caused street flooding in the vicinity of Piedmont Road.

South Babb Creek

Overbanking apparently occurred from South Babb Creek on January 28 near Mt. Pleasant School and at Lochner Drive. Shallow floodwaters flowed down White Road, through a shopping center at the corner of White and Story Roads, and then down Story Road toward Lower Silver Creek. Mud and debris were deposited in streets and parking lots.

Upper Silver Creek

Overbanking from Upper Silver Creek in San Jose on January 22 in the vicinity of Yerba Buena Avenue caused adjacent street flooding.

Fisher Creek

Agricultural areas adjacent to the Fisher Creek in San Jose experienced minor flooding. Roads in the area were closed due to flooding; Santa Teresa Boulevard was closed between Bailey Avenue and Tilton Avenue. No homes were reported to have suffered water damage.

Llagas Creek and Tributaries

The Llagas Creek Watershed south of Morgan Hill experienced flooding on West Little Llagas, East Little Llagas, Corralitos, Tennant, San Martin, Church, Rucker, Skillet, San Ysidro and West Branch Llagas Creeks. West Little Llagas Creek flooded at several locations. At Llagas Road, floodwater left the channel and flowed to Carriage Drive and Shadowbrook Way. Wright Avenue was closed due to flooding from the creek and further downstream there was flooding from the creek between LaCrosse Drive and Watsonville Road. The Paradise Valley school was evacuated for at least one day. The capacities of East and West Little Llagas Creeks are minimal in this area and the runoff could not be channeled downstream. Tennant Creek also has limited capacity and this resulted in street flooding at East Dunne Avenue and south of Tennant Avenue. In the area southeast of San Martin flooding occurred along San Martin and Church Creeks on

Colombet Avenue. Flooding also occurred along Rucker Creek near Buena Vista Avenue, and along San Ysidro Creek at Pacheco Pass Highway. Gilroy Foods experienced some flooding from West Branch Llagas Creek of its parking lot and buildings. A number of homes in low lying areas in the Morgan Hill, San Martin and Gilroy areas appeared to have their access roads and possibly septic systems impaired by flooding. The proposed Soil Conservation Service project on Llagas Creek and its tributaries will alleviate the West Little Llagas Creek, West Branch Llagas Creek, Lions Creek and Miller Slough flooding by collecting and channeling the water downstream.

Uvas Creek and Tributaries

The Uvas Creek Watershed southwesterly of Gilroy also experienced flooding and erosion. Downstream of the confluence of Uvas and Little Arthur Creeks, the adjacent flat lands were flooded; water was contained within the Uvas floodplain area. At the confluence of the Pajaro River and Carnadero Creek, floodwaters covered about 1,000 acres of agricultural land in Santa Clara and San Benito Counties to depths of about 2 to 10 feet.

STORM OF FEBRUARY 5-8, 1983

This second storm was less severe than the January storm, producing up to 5.8 inches of rainfall on the west side of the valley, 3.2 inches in the south and 1.6 in the east.

Damages during this storm were primarily the result of flooding from Coyote Creek. As had happened in the January storm, overbanking occurred on both the east and west sides of the creek between Highway 237 and the Bay. However, the volume of water overbanking was much greater during this storm, resulting in greater depths and more extensive flooding. To the east, water ponded to the edge of the pavement of the southbound lanes of Highway 17. Floodwaters flowed through culverts under Highway 17, causing flooding of streets and yards in the Milpitas Manor area east of the highway. No homes in this area were reported to have suffered water damage, though street flooding did approach the garage doors of some homes. The culverts under Highway 17 were subsequently sealed off. To the west of Coyote Creek, flooding extended as far as Taylor Street near Alviso. Flooding did not extend into the Town of Alviso or into the San Jose Water Pollution Control Plant on Los Esteros Road.

The previous January storm had resulted in a net increase in storage at District reservoirs of about 27,000 acre-feet. At the beginning of this second storm period, Anderson and Coyote were spilling and maximum releases of 400 c.f.s. were being made from Anderson Reservoir. Although this storm in early February was not large, the outflow from Anderson Reservoir, plus local inflow, resulted in a sustained peak flowrate in Coyote Creek of over 3,000 c.f.s. at Highway 237. As mentioned earlier, Coyote Creek has a capacity of about 1,200 c.f.s. in the reach downstream of Highway 237 where flooding occurred, which corresponds to a one-year flood frequency.

STORM OF FEBRUARY 28 - MARCH 4, 1983

Showers, which began February 23, intensified for several days with peak rainfall occurring on February 28 and March 1. Total rainfall recorded for the storm period reached 17.5 inches on the west side of the valley, 8.1 inches in the south and in the east, 5.8 inches. At Lexington Dam, maximum rainfall intensities of .5 inches per hour were recorded with 1.4 inches in three hours. At Anderson Dam, maximum rainfall intensities of .2 inches per hour were recorded.

The storm caused extensive flooding to the North San Jose, Alviso and Milpitas areas, as well as some damage in East San Jose, Palo Alto and Cupertino.

Coyote Creek

Coyote Creek flooded a large area during this storm. Water covered much of the area between Lower Penitencia Creek and the Guadalupe River and from Montague Expressway north to the Leslie Salt Pond levees, a total flooded area of about 4,000 acres.

Coyote Creek overflowed its banks between Highway 237 and the Bay on the morning of February 28. The peak runoff from this storm did not reach Highway 237 until two days later on the morning of March 2; this peak was about 5,000 c.f.s. and lasted several hours.

To the east of Coyote Creek floodwaters ponded against Highway 17, eventually crossed the highway and flooded the Milpitas Manor residential area on the morning of March 1. It was reported that floodwaters came within one foot of garage doors on Heath Drive. This water flowed north through the Dixon Landing Business Park eventually crossing Dixon Landing Road comingling with water from Lower Penitencia Creek. Highway 17 did not close as a result of this flooding, but traffic was impeded for about 12 hours. Highway 237 between Milpitas and Lawrence Expressway was closed for approximately 10 days from March 1 through March 10.

The depth of water surrounding the San Jose Water Pollution Control Plant to the west of Coyote Creek became so great that employees had to be flown in by helicopter. Floodwater elevations at the plant reached elevation 9.8 feet (NGVD). Although floodwaters seriously encroached on the facility, damage was prevented by emergency sandbagging.

At 6 p.m. on March 1, floodwaters overtopped Grand Avenue and entered Alviso. Mandatory evacuation was ordered by the City Manager of San Jose at this time, and approximately 1,700 people were evacuated with the assistance of the San Jose Fire Department and the California National Guard. Flooding in Alviso eventually reached depths from three to seven feet. It was estimated by the City of San Jose that an estimated 362 homes sustained major damage and 13 homes and 40 businesses sustained lesser damages. Total damages to structures in Alviso were estimated at $6.0 million.

Residents of Mobile Parks West, a mobile home park with approximately 700 units between Zanker Road and North First Street, were also evacuated around 6 p.m. on March 1 because of the expectation that the area would be flooded before morning. In the early hours of March 2, overbanking occurred on the west bank of Coyote Creek between Montague Expressway and Highway 237. This part of Coyote Creek has the capacity to carry about 5,800 c.f.s. corresponding to a five-year flood frequency.

Although Mobile Parks West did flood to a depth of about one to two feet, water was reported inside only one mobile home. Streets and parking lots were also flooded on the east grounds of Agnews State Hospital and at the County Transit District's yard. None of the buildings at these locations reported any flooding. Montague Expressway between Highway 17 and Highway 101 was closed for at least one day due to flooding.

By midnight, March 2, District crews had repaired the eroded creek banks between Montague Expressway and Highway 237 and overbanking from this section was stopped.

A number of large capacity pumps were used by the City of San Jose forces to remove the floodwaters from both Mobile Parks West and Alviso. By March 5, residents

were able to return to Mobile Parks West. By the end of July, seventy-nine residents of Alviso still had not returned to their homes.

Coyote Creek also overbanked in at least one other location during this storm. Adjacent to the Southern Pacific Railroad tracks north of Berryessa Road, floodwaters overbanked on the east side on March 1. It was reported that water one foot deep flowed through the South Bay Mobile Homes Park located at 1350 Old Oakland Road. This flooding was stopped with sandbags before midnight on March 1.

The Metcalf Road bridge across Coyote Creek failed on March 2.

Upper Penitencia Creek

Upper Penitencia overbanked in two locations during this storm, upstream and downstream of King Road. Minor flooding of fields, streets and parking areas occurred.

Barron Creek

Barron Creek overbanked downstream of La Paloma Road and downstream of Ascension Drive.

Adobe Creek

Adobe Creek overbanked upstream of Edith Road, adjacent to Fremont Road. Adobe Creek also overbanked along Moody Road.

Permanente Diversion

Around noon on March 2, the plugging and sudden unplugging of an outlet from a private detention pond on an upstream reach of Permanente Creek caused a surge of floodwaters. More than 540 students were evacuated from Blach Junior High School and Miramonte, a private school, adjacent to Permanente Diversion. The school and grounds flooded to a depth of 1/2 foot. Street flooding also occurred, as well as minor mud damage to the garages of three homes on Altamead Drive. A great deal of sediment was transported with this wave of floodwater. District crews removed 9500 cubic yards of

material from the channel in the two weeks immediately following the storm, leaving 8,000-10,000 cubic yards to be removed during the summer months.

SUMMARY

The storm of January 22-30, 1983 caused heavy rainfall and subsequent flooding in nearly all parts of Santa Clara County. Palo Alto, Cupertino, Los Altos, Los Altos Hills, Sunnyvale, San Jose, Milpitas, Morgan Hill and Gilroy all experienced flooding as a result of this storm.

The storm of February 5-8, 1983 caused flooding primarily in the Lower Coyote Creek watershed north of Highway 237 in both San Jose and Milpitas.

The storm of February 28 through March 4, 1983 caused extensive flooding in the Lower Coyote Creek watershed from Alviso to Milpitas north of Highway 237. Coyote Creek also caused flooding between Montague Expressway and Highway 237, and north of Berryessa Road. In the northwest part of the County, flooding occurred along Barron and Adobe Creeks.

A Damage Assessment Summary for the period January through March prepared by the Santa Clara County Office of Emergency Services is shown on Table V. There was one death reported as a result of storms this year: a five-year-old boy was swept away by high water in South Babb Creek on February 25. It was reported that 468 homes and 166 businesses experienced some flood damage. Many public facilities such as highways, bridges and flood control channels also were affected by the high flood flows resulting in an estimated $20,800,000 in flood-related damages to public and private property.

The Federal Emergency Management Agency (FEMA) estimated $1,206,000 in damage to Santa Clara Valley Water District facilities as a result of this winter's storms. Applications for cost-shared rehabilitation are pending with the FEMA, the U. S. Army Corps of Engineers and the U. S. Soil Conservation Service. The District has also applied for reimbursement from FEMA of $425,500 expended in emergency debris removal and flood fighting costs.

ADDENDUM

As of August 24, 1983, FEMA has responded to 46 of the 53 Damage Survey Reports (DSRs) submitted in April. Of the initial $1,645,967 originally submitted: $442,859 has been approved for 75% cost sharing ($322,133). Five DSRs are in suspense pending the Corps' PL99 investigations and one DSR is pending a hazard mitigation report. Two applications were withdrawn by the District: 1) Sunnyvale East erosion repair ($100,000); and 2) Calabazas Creek debris basin cleaning at Comer Drive ($82,110). Six applications were rejected ($139,649), the largest ones being retaining wall repair on Los Gatos Creek at Hamilton Avenue ($68,282), and erosion repair on Guadalupe River near Alma Street ($65,112). A number of others were reduced in amount resulting in an additional $196,990 rejected.

The five DSRs pending Corps PL99 investigation are: Los Coches at Carnegie, Silver Creek Diversion Channel, Lower Silver Creek, Guadalupe River near Almaden Road, and Llagas Creek erosion repairs. It appears that the Corps may be interested in repairing one of the three erosion sites on Llagas Creek near Highway 152 under their Section 14, Emergency Bank Protection program. The alternatives being considered for this project range in cost from $68,000 to $104,000. However, the Corps has returned negative decisions on all the other projects it has investigated.

The Soil Conservation Service is cooperating on the Guadalupe River project near Almaden Road, which recently went out to bid. (This was one of the DSRs that FEMA suspended pending PL99 investigation.) SCS may also be interested in the Silver Creek Diversion project, which the Corps rejected.

District staff are following up on the six applications which are in suspense and the seven applications which have not yet been addressed. Table VI summarizes the status of applications for reimbursement as of August 24, 1983.

Table I

RAINFALL DATA
(Inches)

Station Name	No.	Location (Basin)	Jan.22-30 1983	Feb.5-8 1983	Feb.23-Mar.4 1983
Almaden	4	Alamitos Creek	12.0	3.2	11.1
Anderson	41	Coyote Creek	8.5	1.6	5.8
Dahl Ranch	24	Adobe Creek	12.3	5.8	11.7
Lexington Reservoir	42	Los Gatos Creek	14.6	4.5	13.5
Peabody	75	Llagas Creek	5.8	1.6	4.8
Penitencia Water Treatment Plant	99	Upper Penitencia Creek	5.8	1.3	4.7
San Jose	86	Guadalupe Creek	6.3	1.3	4.7
Stevens Creek	100	Stevens Creek	12.2	3.9	11.8
U.T.C.	102	Coyote Creek	8.5	1.7	6.6
Uvas Reservoir	104	Uvas Creek	9.4	3.2	8.1
Valley Christian	77	Saratoga Creek	16.6	6.1	17.5

Table II

HISTORICAL STATISTICS FOR REPRESENTATIVE PRECIPITATION STATIONS IN SANTA CLARA VALLEY
(All Values in Inches)

Station Name	No.	Records Began	Historical Seasonal High*		Historical Seasonal Average	Total Rainfall 7/01/82-4/30/83	Percent of Seasonal Average
Almaden	4	1971	49.40	1981-82	32.16	62.70**	195
Anderson	41	1951	35.20	1968-69	19.77	41.30**	209
Dahl Ranch	24	1965	56.30	1981-82	32.12	70.00**	218
Lexington Reservoir	42	1952	69.18	1979-80	37.56	78.80**	210
Peabody	75	1932	33.63	1968-69	19.48	36.80**	189
Penitencia Water Treatment Plant	99	1968	30.04	1977-78	16.48	29.80	181
San Jose	86	1874	30.30	1889-90	14.24	30.16	211
Stevens Creek	100	1937	47-50	1957-58	27.72	61.80**	223
U.T.C.	102	1962	29.40	1981-82	19.12	39.90**	209
Uvas Reservoir	104	1962	72.33	1974-75	31.40	56.90	181
Valley Christian	77	1958	75.10	1981-82	42.93	95.80**	223

* The rainfall season is from July 1 to June 30

**Rainfall amounts that exceed the Historical Seasonal High

Table III

PRELIMINARY PEAK FLOW VALUES FOR VARIOUS STREAMS IN SANTA CLARA COUNTY DURING THE STORMS OF 1982-83

Sta. No.	Location	January 22-30,1983 Flow (cfs)	January 22-30,1983 Frequency (years)	February 5-8,1983 Flow (cfs)	February 5-8,1983 Frequency (years)	Feb.23-Mar.4,1983 Flow (cfs)	Feb.23-Mar.4,1983 Frequency (years)	1% Design Event(cfs)
1	Penitencia Creek at Piedmont Rd.	1,400	17	325	4	690	7	4,000
16	Alamitos Creek below Almaden Dam	650	4	200	5	550	3	2,500
23B	Guadalupe River at Almaden Exp.	8,400**	18	435	5	3,910	3	14,500
25	Saratoga Ck. at Pruneridge Ave.	1,800	5	860	1	1,250	2	3,500
26A	Calabazas Ck. at Wilcox School	2,500	12	1,150	3	1,500	3	3,900
44	Stevens Ck. below Stevens Ck. Dam	500	—	370	—	490	—	5,500
51	Ross Creek at Cherry Ave.	1,150	6	400	2	970	4	2,000
58	Coyote Creek at Edenvale	1,170	2	3,760	7	5,030	10	14,500
59	Los Gatos Ck. at Lark Ave.	1,280	8	760	5	1,995	13	6,900
64	Berryessa Ck. above Calaveras Rd.	1,045**	2	210	2	300	2	4,000
67	Los Gatos Ck. below Lexington Dam	730	—	420	—	1,710	—	6,300
69	Llagas Creek below Chesbro Dam	1,110	—	290	—	810	—	3,900
91	Saratoga Ck. at Saratoga - USGS	1,680	7	315	2	290	2	3,500
92	Guadalupe R. at St. John St. - USGS	7,350	3	1,800	2	5,690	2	17,000
93	San Francisquito Ck. at Stanford - USGS	3,460	6	2,110	3	1,800	3	8,300
	Coyote Creek near Madrone - USGS	1,210	2	3,460	2	4,580	2	14,300
	Uvas Creek near Gilroy - USGS	3,820	4	2,130	2	2,910	3	13,400

* Estimate
**Exceeded Historical Peak Flow (in channel flow-overbanking, if any, excluded)
— Undefined

Note: Frequency determination for flow value less than maximum annual is approximate.

Table IV

HISTORICAL PEAK FLOWS FOR
VARIOUS STREAMS IN SANTA CLARA VALLEY

Sta. No.	Location	Records Began	Historical Peak Flow (cfs)	Date
1	Penitencia Creek at Piedmont Road	1939	2,200	04/02/58
16	Alamitos Creek below Almaden Dam	1939	2,000	12/23/55
23B	Guadalupe River at Almaden Expwy.	1975	5,650*	03/31/82
25	Saratoga Creek at Pruneridge Ave.	1939	2,300	02/19/80
26A	Calabazas Creek at Wilcox School	1976	2,540	01/14/78
44	Stevens Creek below Stevens Ck. Dam	1930	1,420	12/23/55
51	Ross Creek at Cherry Avenue	1957	1,550	01/30/68
58	Coyote Creek at Edenvale	1916	10,000	02/10/22
59	Los Gatos Creek at Lark Avenue	1970	2,190	03/31/82
64	Berryessa Creek above Calaveras Rd.	1970	1,000*	02/19/80
67	Los Gatos Creek below Lexington Dam	1930	3,540	04/02/58
69	Llagas Creek below Chesbro Dam	1950	3,190	04/02/58
91	Saratoga Creek at Saratoga - USGS	1933	2,730	12/22/58
92	Guadalupe River at St. John St.-USGS	1929	9,150	04/02/58
93	San Francisquito Ck. at Stanford - USGS	1930	5,560	12/22/55
	Coyote Creek near Madrone - USGS	1902	25,000**	03/07/11
	Uvas Creek near Gilroy - USGS	1959	9,490	02/01/63

* Exceeded by 1983 Storm Flows

** This value was recorded before Anderson and Coyote Dam were built.

memorandum

TABLE V

TO	FROM
Mary Ann Gustafson Santa Clara Valley Water District	Gary R. Orr, Emergency Services Coordinator
SUBJECT	**DATE**
1983 WINTER STORM DAMAGE FIGURES	7/25/83

Listed below are the figures you requested on the Winter Storm of 1983:

1.	Total $ Damage	=	$20,839,000.00
2.	People Evacuated	=	Approximately 1900
3.	People Dead	=	One (1)
4.	Houses Damaged	=	466
5.	Houses Destroyed	=	2
6.	Businesses Damaged	=	160
7.	Businesses Destroyed	=	-0-
8.	People Still Displaced	=	79
9.	Damage to Public Property	=	$1,542,000.00

'83 JUL 28 PM 3:08
SANTA CLARA VALLEY WATER DISTRICT

Should further information be needed, please contact us.

Memo **County of Santa Clara**

Date	Time	By
7-26		

To Mary A. Gustafson Staff - Circulate
S. C. C. Valley Water Dist

From Gary Orr

Organization Emergency Services

Area Code	Telephone Number	Extension
	299	3751

For Your	Person Calling	Please
☐ Information	☐ Telephoned	☐ Prepare reply
☐ Comments	☐ Was here	☐ Handle
☐ Signature	☐ Returned your call	☐ See me
☐ Approval	☐ Please call back	☐ Return to sender
☐ File	☐ Will call again	☐ Rush

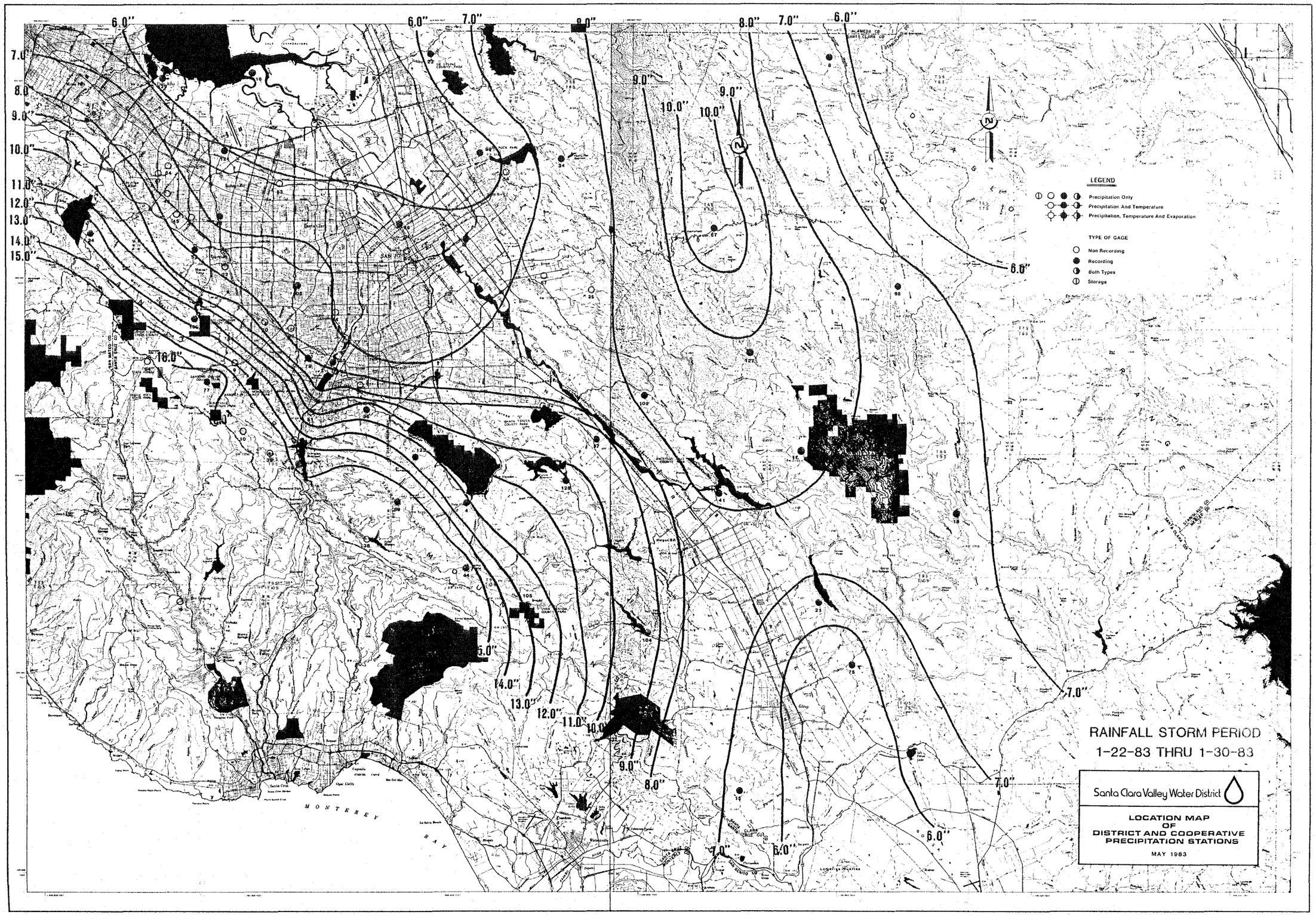
Remarks

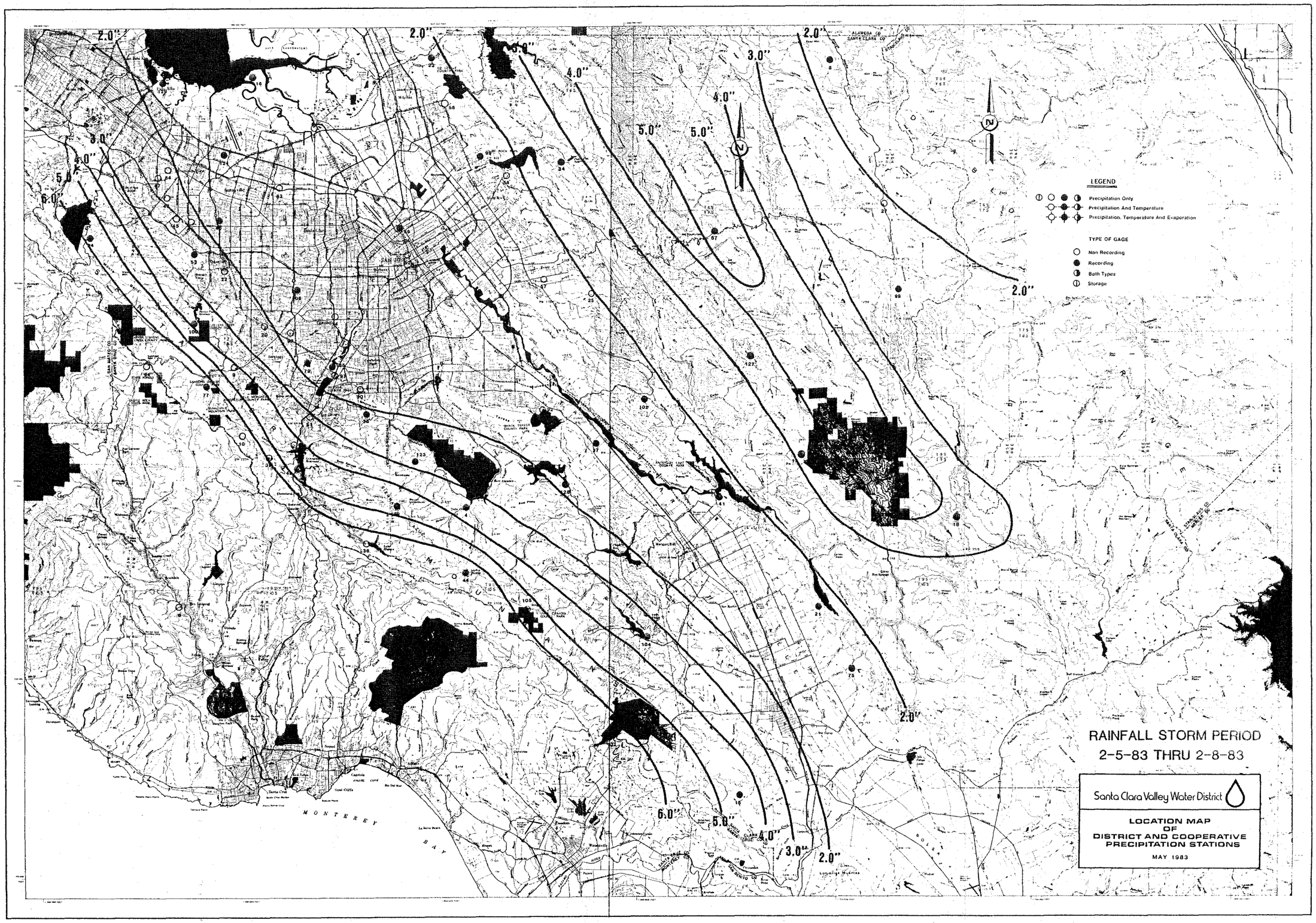
TABLE VI

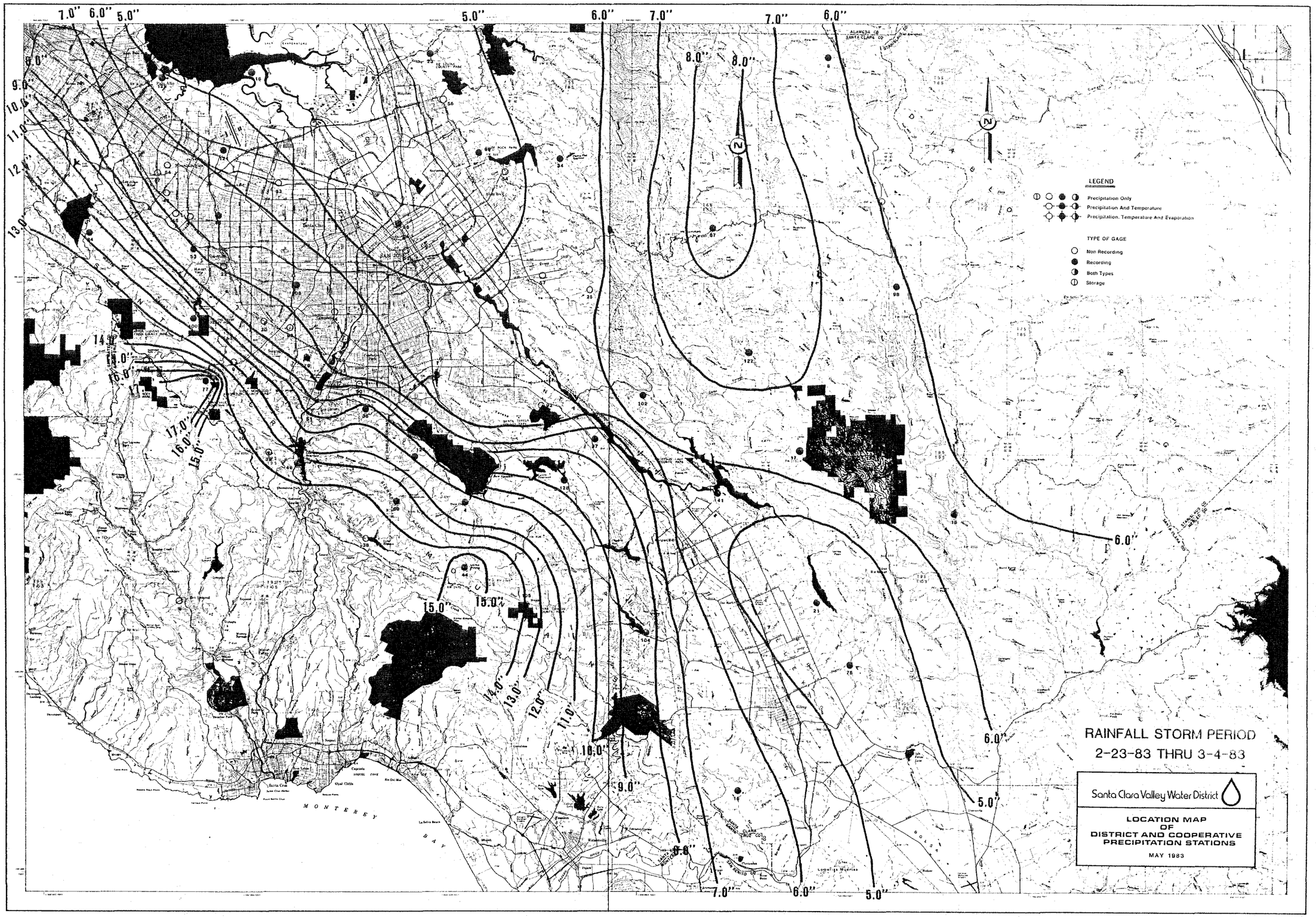
FEMA'S RESPONSE TO 1983 DAMAGE SURVEY REPORTS
August 24, 1983

Category	No. Submitted	No. Approved **	Comment	Total Original $ Amount	Approved $ Amount	$ Amount Rejected	Pending $ Amount
A	11	7	Four DSR's not yet addressed by FEMA	303,688	132,618	1,353	169,717
B	7	6	FEMA says we should bill the City of San Jose for rock fill on Guadalupe @ Gold St.,not submit DSR	121,901	120,736	[1,172]	2,337 (City of San Jose)
D	35	18	Six rejected ($139,649); Two withdrawn by District ($182,110); * Five pending COE PL99 investigation ($130,710); * One pending hazard mitigation report ($42,336) * Three not addressed ($339,259)	1,220,378	189,505	518,568	*512,305
	53	31		1,645,967	442,859	518,749	684,359

** DSR's approved in some cases with adjustments to dollar amounts due to material or labor unit cost changes, math errors, etc.


LEGEND
Precipitation Only
Precipitation And Temperature
Precipitation, Temperature And Evaporation
TYPE OF GAGE
Non Recording
Recording
Both Types
Storage
RAINFALL STORM PERIOD
1-22-83 THRU 1-30-83
Santa Clara Valley Water District
LOCATION MAP
OF
DISTRICT AND COOPERATIVE
PRECIPITATION STATIONS
MAY 1983
MONTEREY BAY
SAN JOSE
6.0"
7.0"
8.0"
9.0"
10.0"
11.0"
12.0"
13.0"
14.0"
15.0"
16.0"


RAINFALL STORM PERIOD
2-5-83 THRU 2-8-83
Santa Clara Valley Water District
LOCATION MAP
OF
DISTRICT AND COOPERATIVE
PRECIPITATION STATIONS
MAY 1983
LEGEND
Precipitation Only
Precipitation And Temperature
Precipitation, Temperature And Evaporation
TYPE OF GAGE
Non Recording
Recording
Both Types
Storage
2.0"
3.0"
4.0"
5.0"
6.0"
MONTEREY BAY
SAN JOSE
Santa Cruz
ALAMEDA CO
SANTA CLARA CO
SAN MATEO CO
SANTA CRUZ CO
STANISLAUS CO
MERCED CO
SAN BENITO CO
MONTEREY CO


RAINFALL STORM PERIOD
2-23-83 THRU 3-4-83
Santa Clara Valley Water District
LOCATION MAP
OF
DISTRICT AND COOPERATIVE
PRECIPITATION STATIONS
MAY 1983
LEGEND
Precipitation Only
Precipitation And Temperature
Precipitation, Temperature And Evaporation
TYPE OF GAGE
Non Recording
Recording
Both Types
Storage
MONTEREY BAY
SAN JOSE
7.0" 6.0" 5.0"
5.0"
6.0" 7.0"
7.0" 6.0"
8.0" 8.0"
9.0"
10.0"
11.0"
12.0"
13.0"
14.0"
15.0"
16.0"
17.0"
16.0"
15.0"
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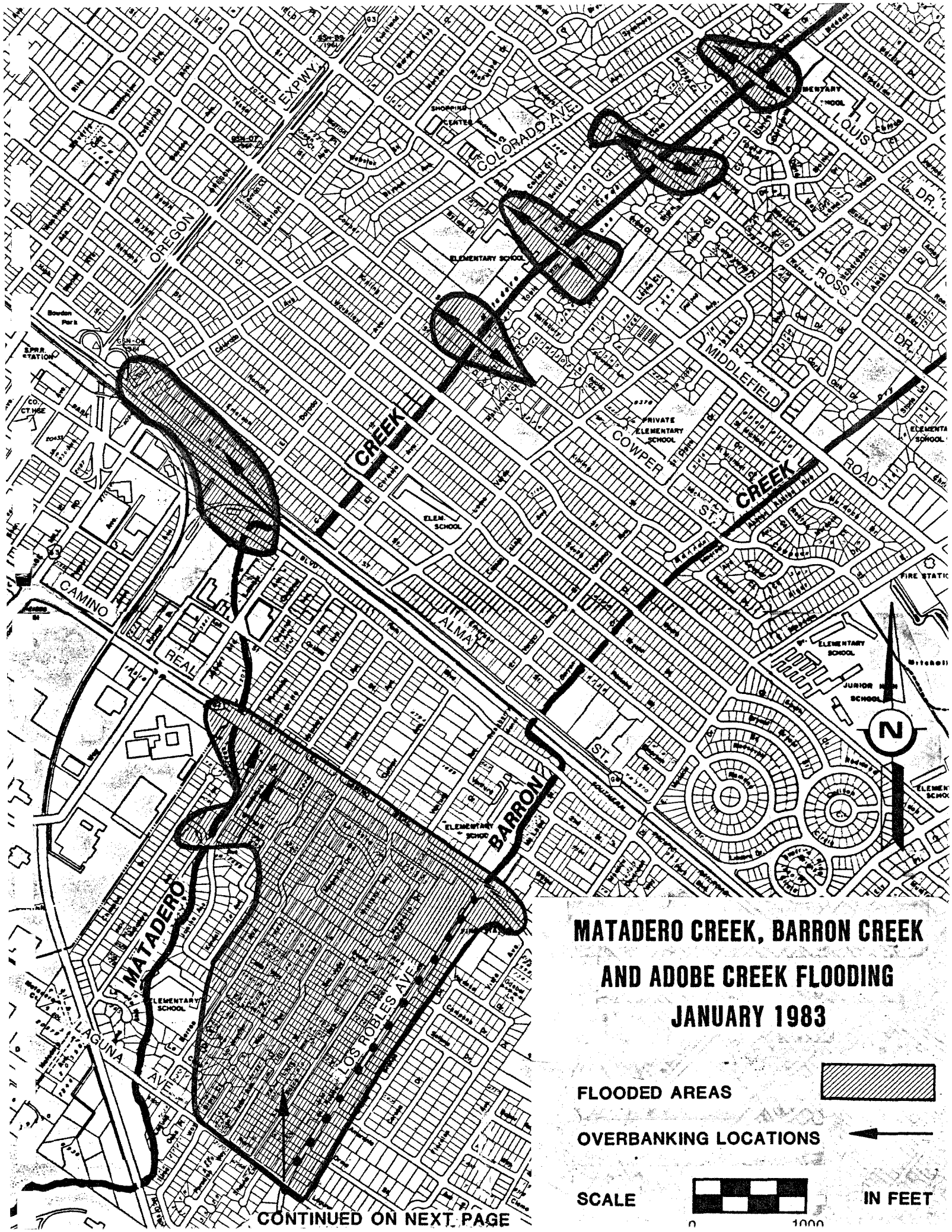
14.0"
13.0"
12.0"
11.0"
10.0"
9.0"
8.0"
7.0" 6.0" 5.0"
6.0"
6.0"
5.0"

January 22-30 Flooding

Maps



CONTINUED ON NEXT PAGE

CONTINUED FROM PAGE BEFORE

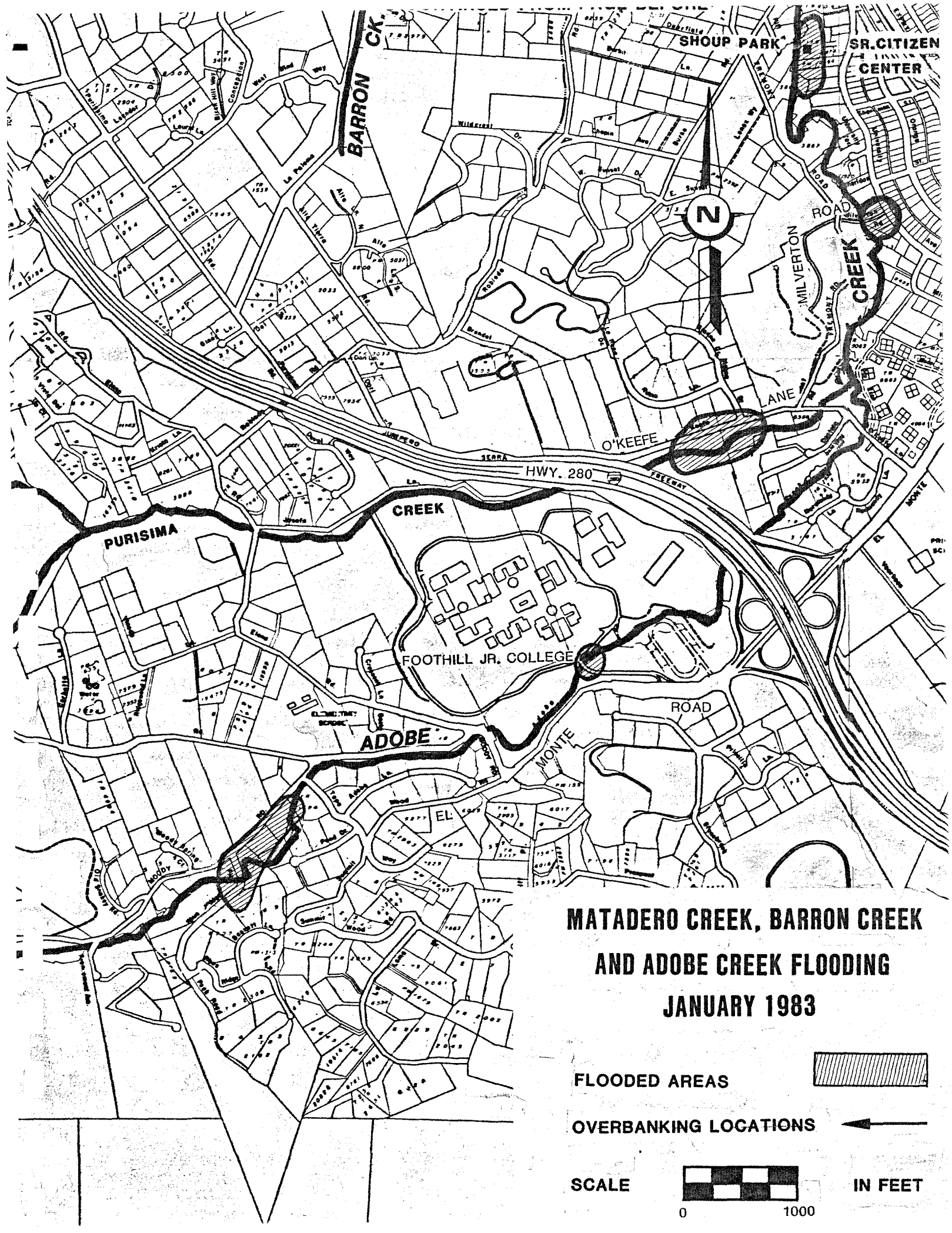
MATADERO CREEK , BARRON CREEK AND ADOBE CREEK FLOODING JANUARY 1983

FLOODED AREAS

OVERBANKING LOCATIONS

SCALE 0 1000 IN FEET

CONTINUED ON NEXT PAGE

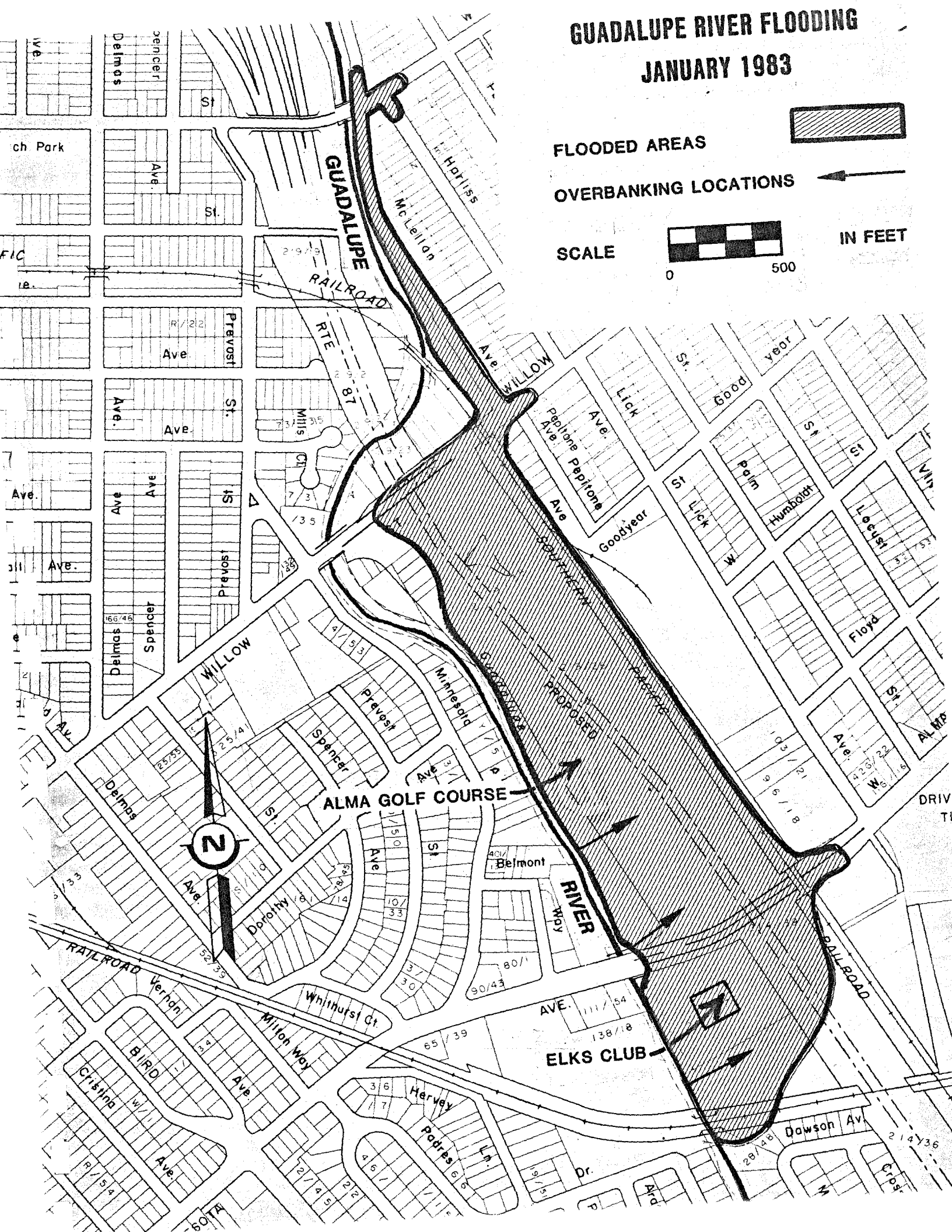

SHOUP PARK
SR.CITIZEN CENTER
BARRON CK.
MILVERTON
CREEK
ROAD
LANE
O'KEEFE
HWY. 280
CREEK
PURISIMA
FOOTHILL JR. COLLEGE
ROAD
ADOBE
MONTE
EL
N
MATADERO CREEK, BARRON CREEK
AND ADOBE CREEK FLOODING
JANUARY 1983
FLOODED AREAS
OVERBANKING LOCATIONS
SCALE
IN FEET
0
1000

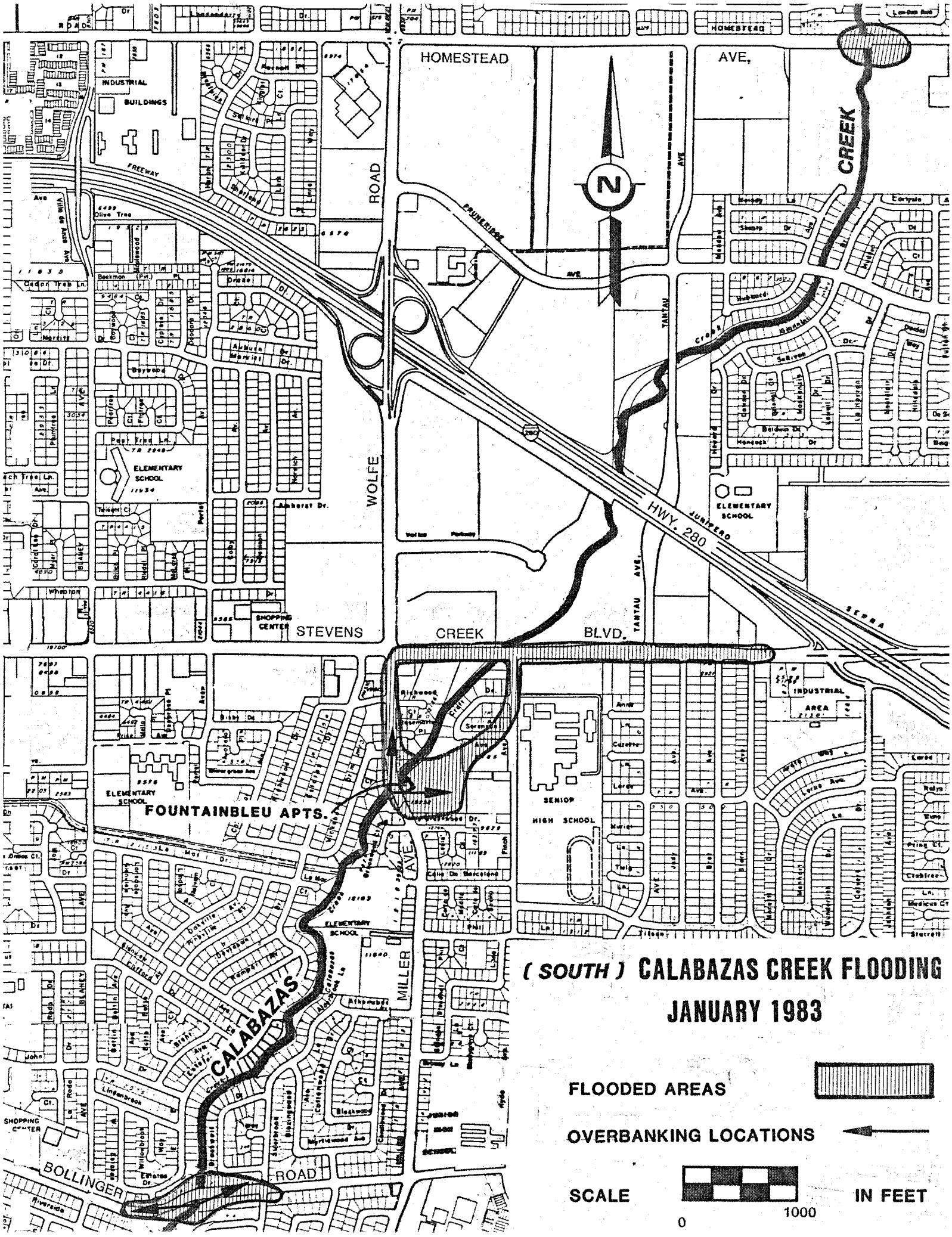
GUADALUPE RIVER FLOODING
JANUARY 1983

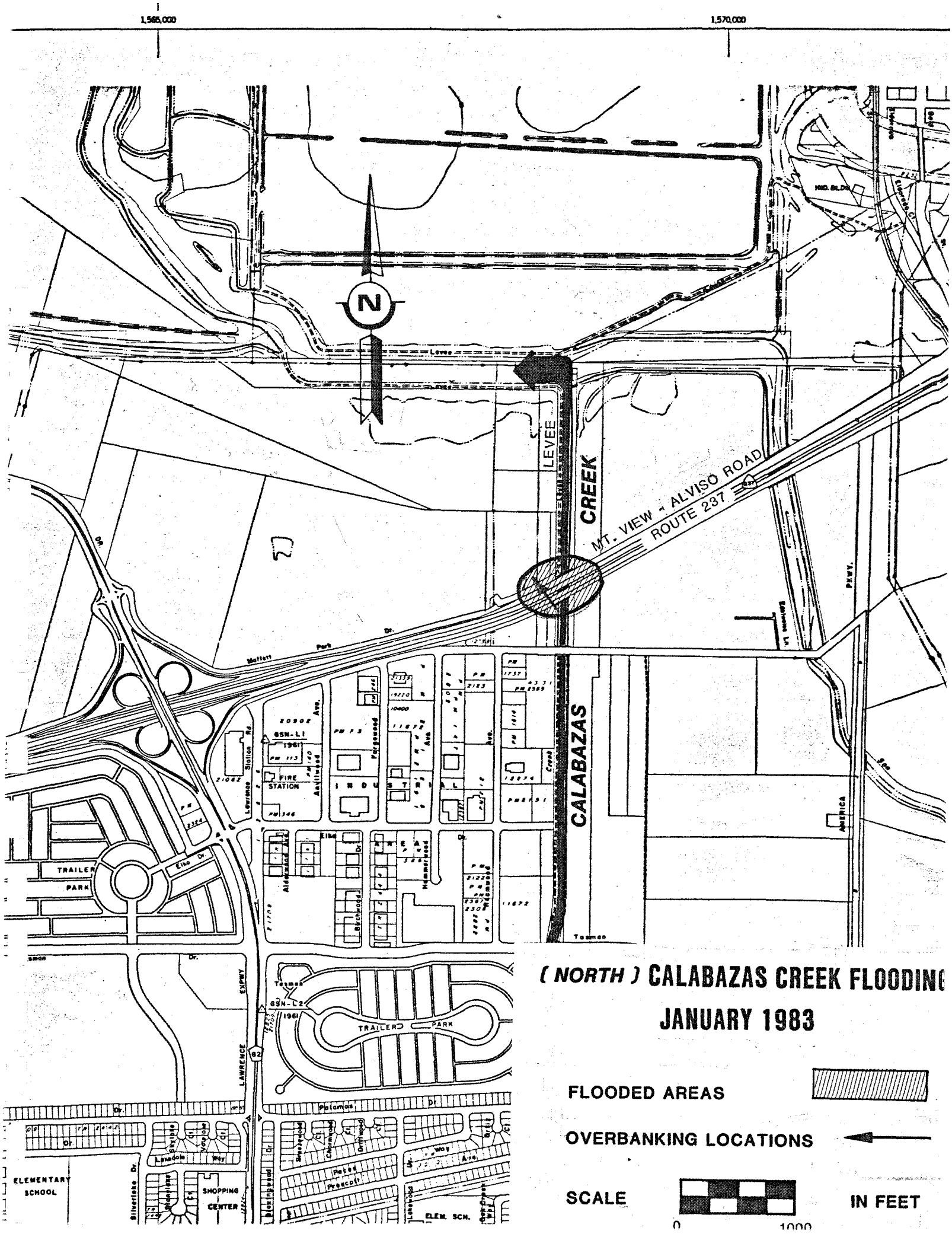
FLOODED AREAS

OVERBANKING LOCATIONS

SCALE 0 500 IN FEET




HOMESTEAD
AVE.
CREEK
INDUSTRIAL
BUILDINGS
FREEWAY
ROAD
WOLFE
PRUNERIDGE
AVE
TANTAU
HWY. 280
JUNIPERO
SERRA
ELEMENTARY
SCHOOL
SHOPPING
CENTER
STEVENS
CREEK
BLVD.
INDUSTRIAL
AREA
SENIOR
HIGH SCHOOL
FOUNTAINBLEU APTS.
MILLER
AVE
CALABAZAS
BOLLINGER
ROAD
(SOUTH) CALABAZAS CREEK FLOODING
JANUARY 1983
FLOODED AREAS
OVERBANKING LOCATIONS
SCALE
0
1000
IN FEET

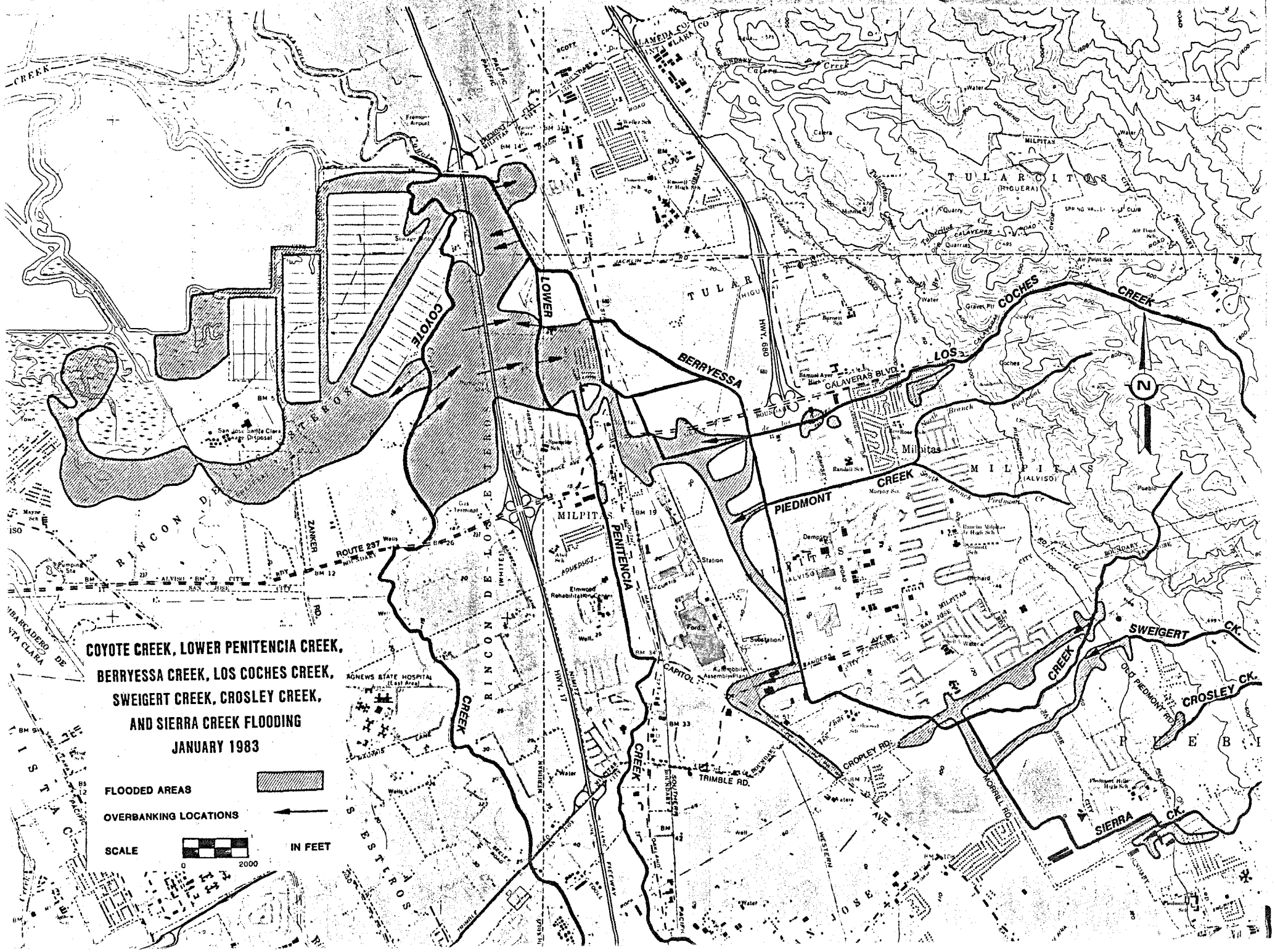


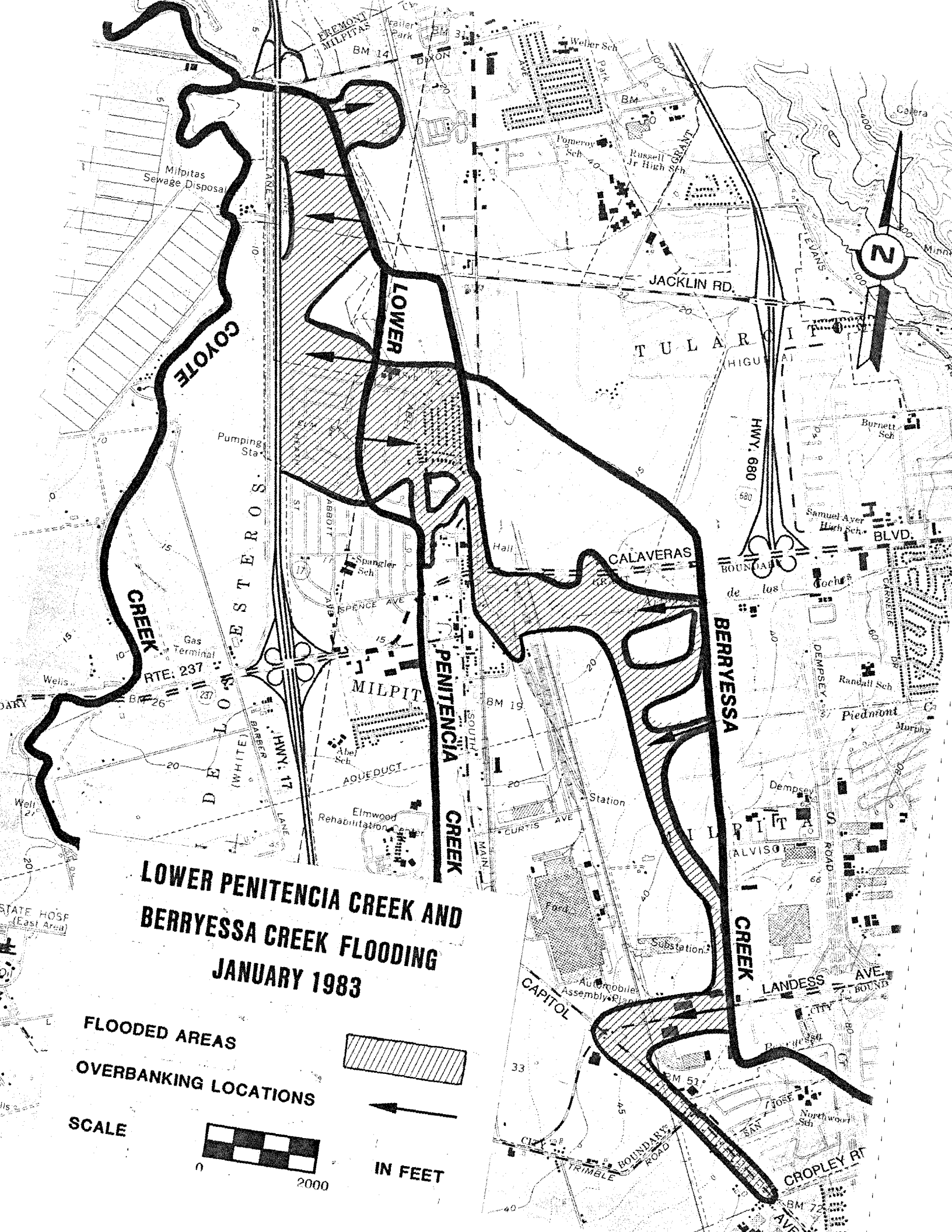
(NORTH) CALABAZAS CREEK FLOODING
JANUARY 1983

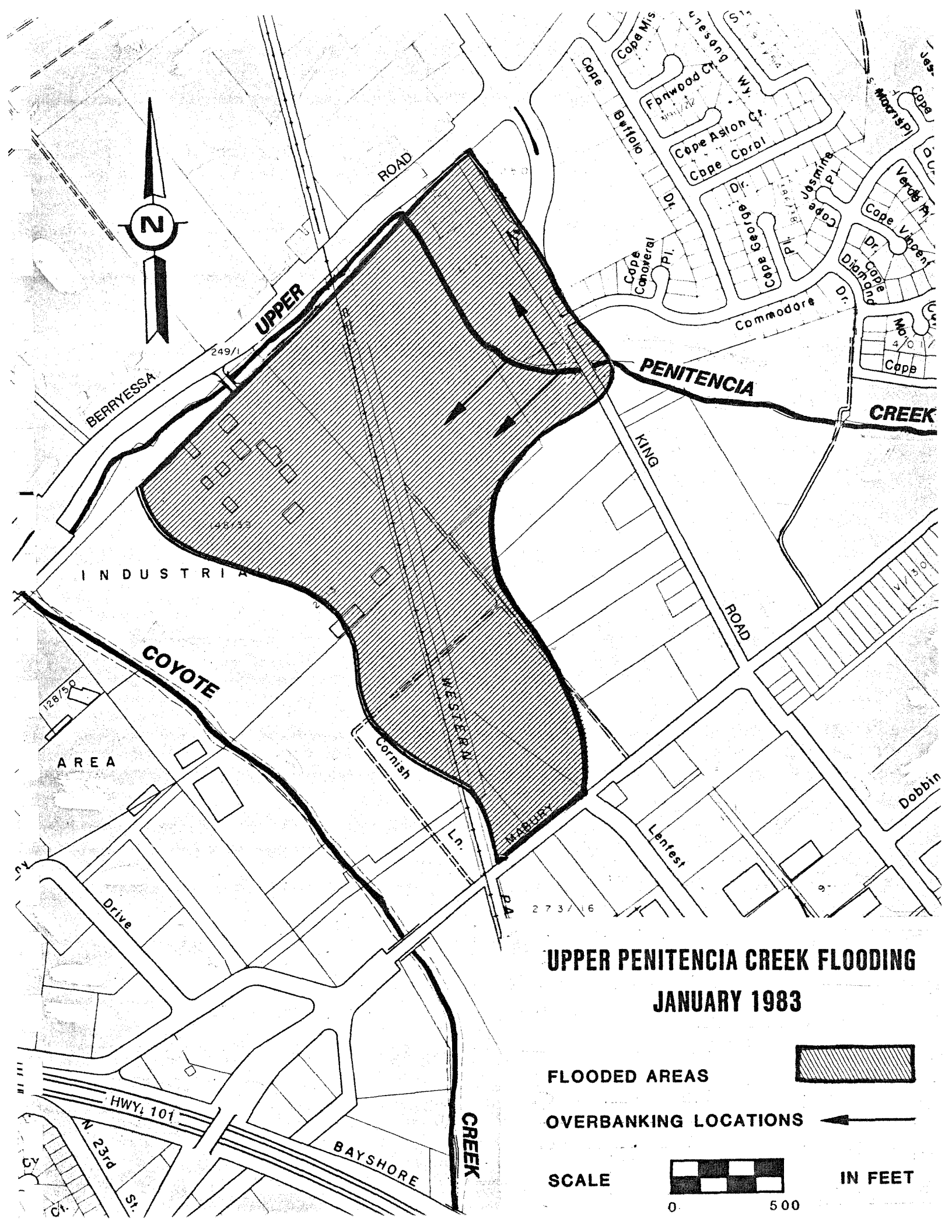
FLOODED AREAS

OVERBANKING LOCATIONS

SCALE 0 1000 IN FEET


COYOTE CREEK, LOWER PENITENCIA CREEK,
BERRYESSA CREEK, LOS COCHES CREEK,
SWEIGERT CREEK, CROSLEY CREEK,
AND SIERRA CREEK FLOODING
JANUARY 1983
FLOODED AREAS
OVERBANKING LOCATIONS
SCALE
0
2000
IN FEET
COYOTE
LOWER
PENITENCIA
CREEK
BERRYESSA
CREEK
LOS
COCHES
CREEK
PIEDMONT
CREEK
SWEIGERT
CREEK
CROSLEY CK.
SIERRA
CREEK
CALAVERAS BLVD.
CAPITOL
TRIMBLE RD.
CROPLEY RD.
MORRELL RD.
OLD PIEDMONT RD.
ROUTE 237
ZANKER
RD.
HWY. 680
HWY. 17
NIMITZ
FREEWAY
AGNEWS STATE HOSPITAL
(East Area)
MILPITAS
TULARCITOS
(HIGUERA)
MILPITAS
(ALVISO)
RINCON DE LOS ESTEROS
(WHITE)
RINCON DE LOS ESTEROS
ESTEROS
SAN JOSE
N


LOWER PENITENCIA CREEK AND
BERRYESSA CREEK FLOODING
JANUARY 1983
FLOODED AREAS
OVERBANKING LOCATIONS
SCALE
0
2000
IN FEET
COYOTE
CREEK
LOWER
PENITENCIA
CREEK
BERRYESSA
CREEK
JACKLIN RD.
HWY. 680
CALAVERAS
BLVD.
RTE. 237
HWY. 17
AQUEDUCT
CAPITOL
LANDESS AVE.
CROPLEY RD
Milpitas Sewage Disposal
Pumping Sta
Gas Terminal
Elmwood Rehabilitation Center
Station
Substation
Automobile Assembly Plant
Ford
Pomeroy Sch
Russell Jr High Sch
Weller Sch
Spangler Sch
Abel Sch
Samuel Ayer High Sch
Burnett Sch
Randall Sch
Dempsey
Northwood Sch
Trailer Park
Piedmont
Calera
Hall
Wells
TULARCITOS
MILPITAS
DELOS SOS
(WHITE)
ALVISO
TRIMBLE
ROAD
SAN JOSE
CITY BOUNDARY
BM 14
BM 26
BM 19
BM 51
BM 72
BM 33
DIXON
SPENCE AVE
CURTIS AVE
SOUTH MAIN
ABBOTT
BARBER
LANE
DEMPSEY
CARNEGIE
LEVANS
GRANT
BOUNDARY
STATE HOSP (East Area)

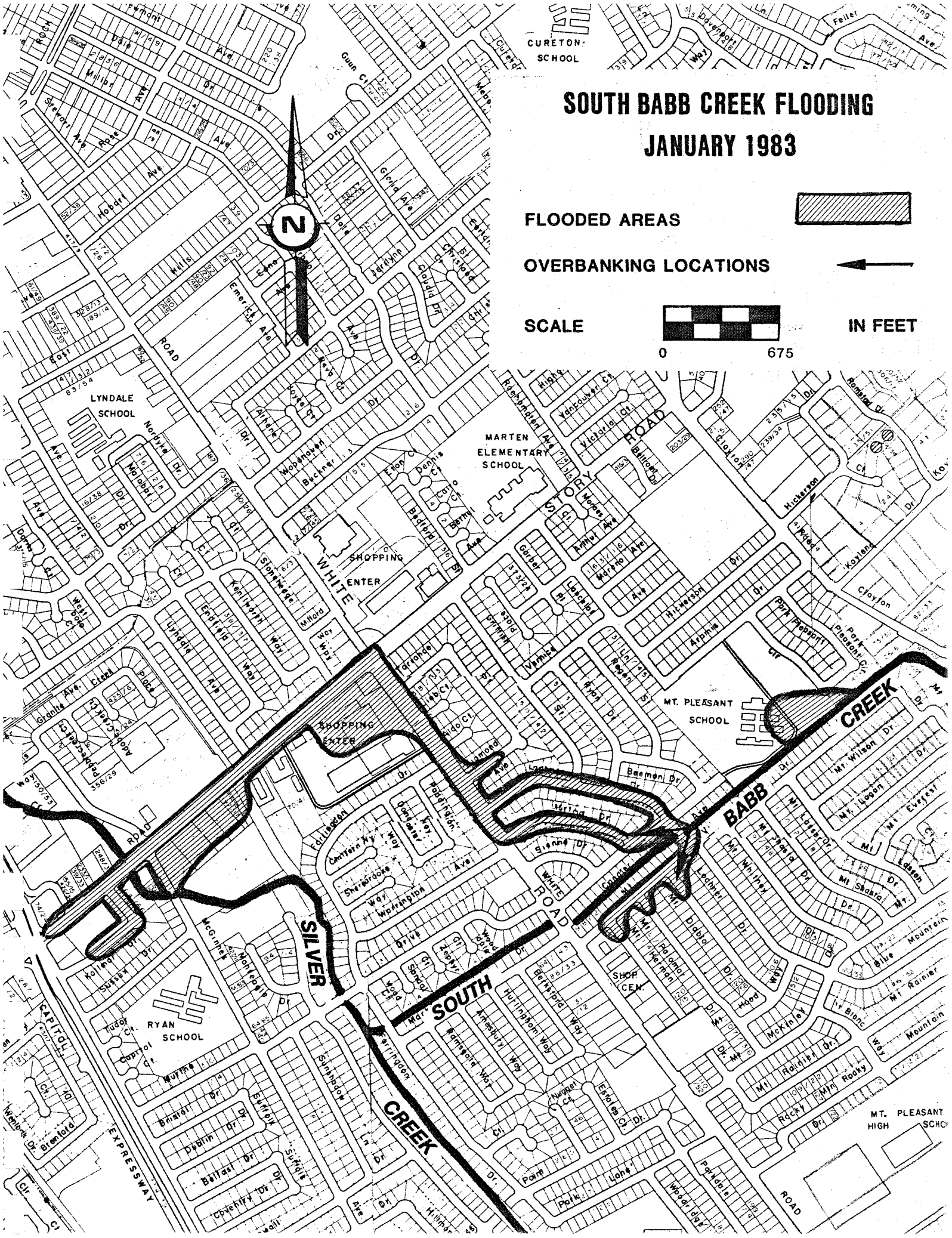

UPPER PENITENCIA CREEK FLOODING
JANUARY 1983
FLOODED AREAS
OVERBANKING LOCATIONS
SCALE
0
500
IN FEET
N
UPPER
PENITENCIA
CREEK
COYOTE
CREEK
BERRYESSA
ROAD
KING
ROAD
INDUSTRIAL
AREA
WESTERN
PACIFIC
Cornish
Ln.
MABURY
Lenfest
Dobbin
Drive
HWY. 101
BAYSHORE
N. 23rd
St.
Cape Buffalo
Dr.
Cape Canaveral
Pl.
Cape George
Dr.
Cape Jasmine
Pl.
Cape Diamond
Dr.
Cape Vincent
Commodore
Dr.
Cape Coral
Cape Aston Ct.
Fernwood Ct.
Cape Mis
Cape
Morris Pl
Cape
Cape
249/1
148/33
128/50
273/16

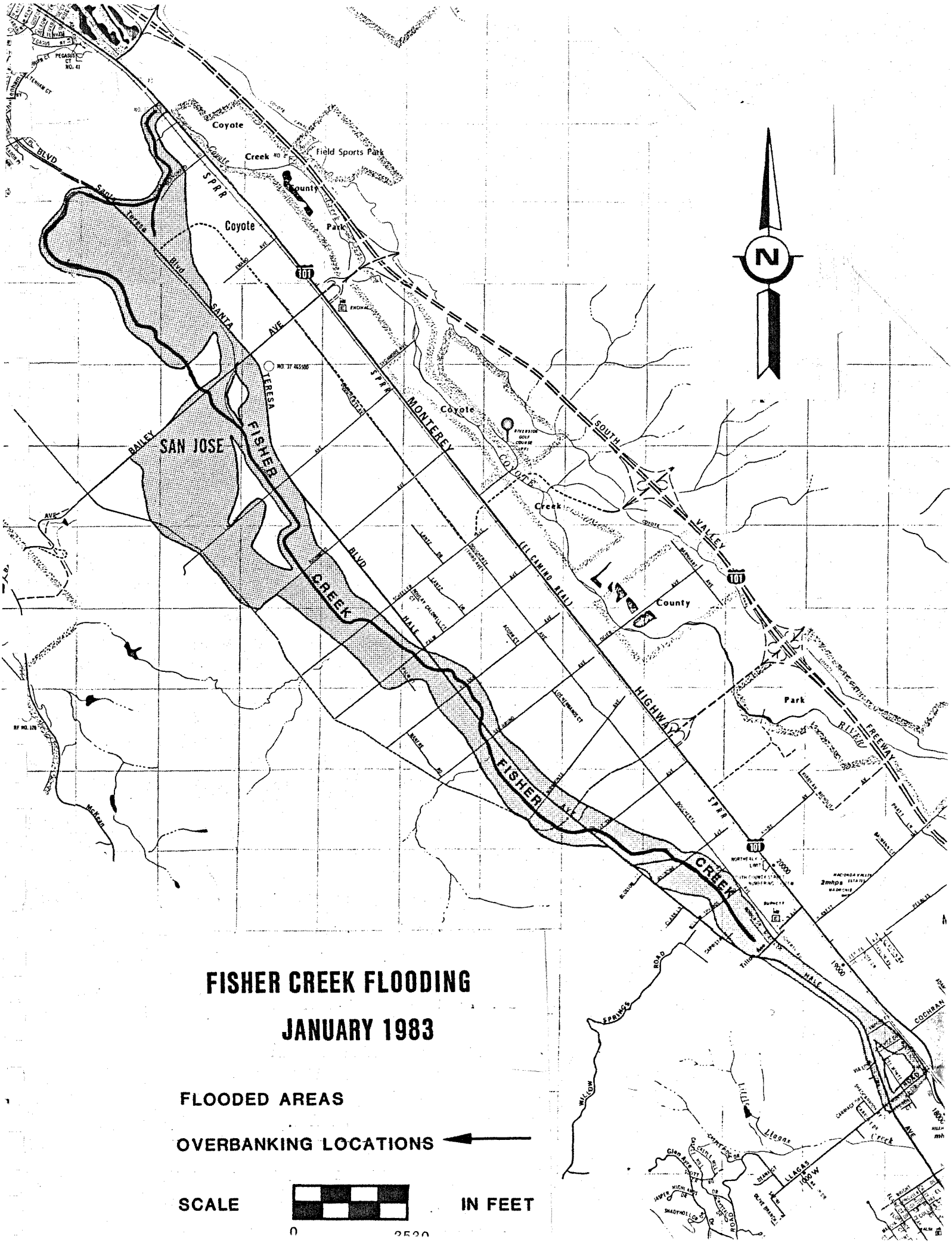
SOUTH BABB CREEK FLOODING
JANUARY 1983

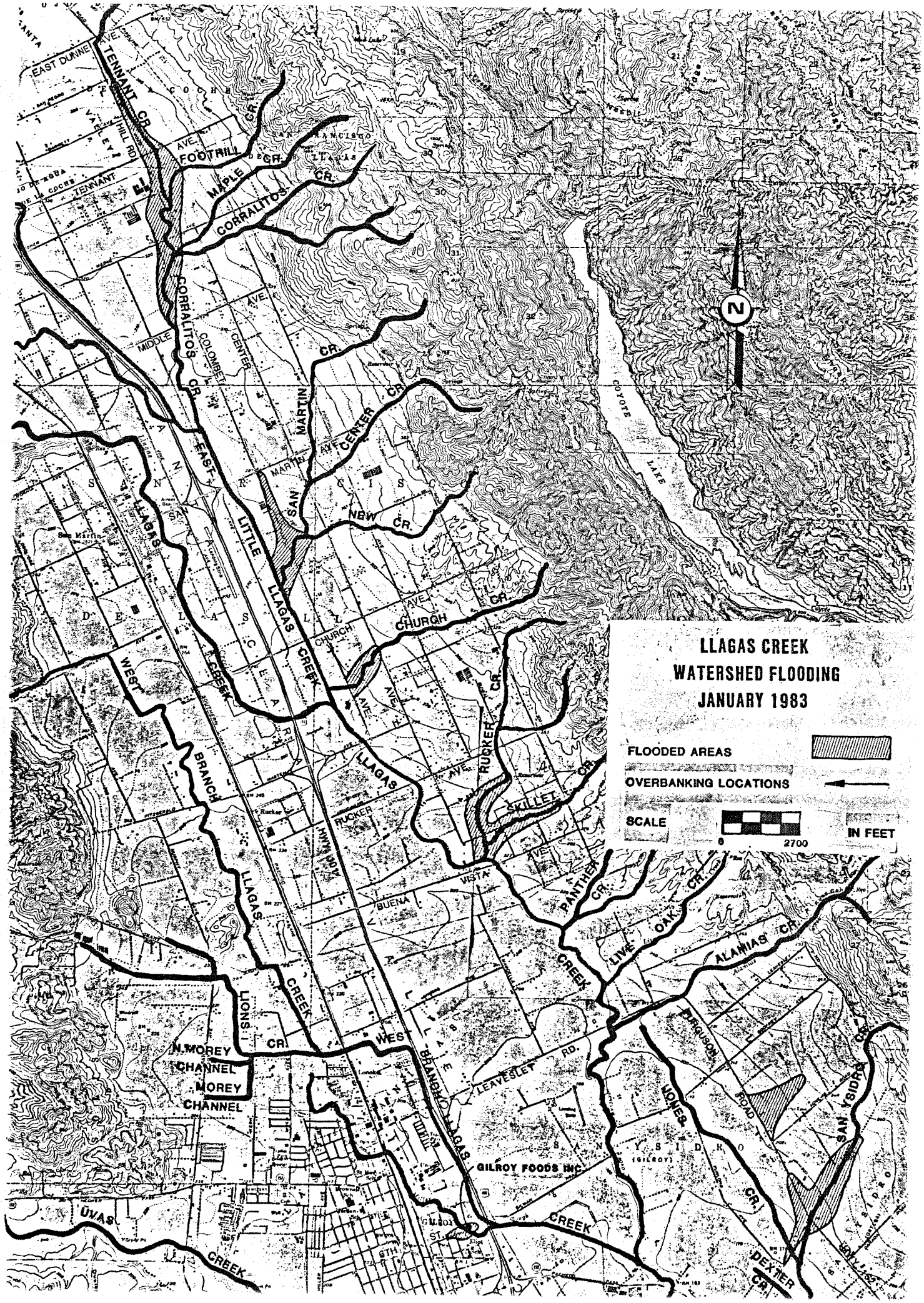
FLOODED AREAS

OVERBANKING LOCATIONS

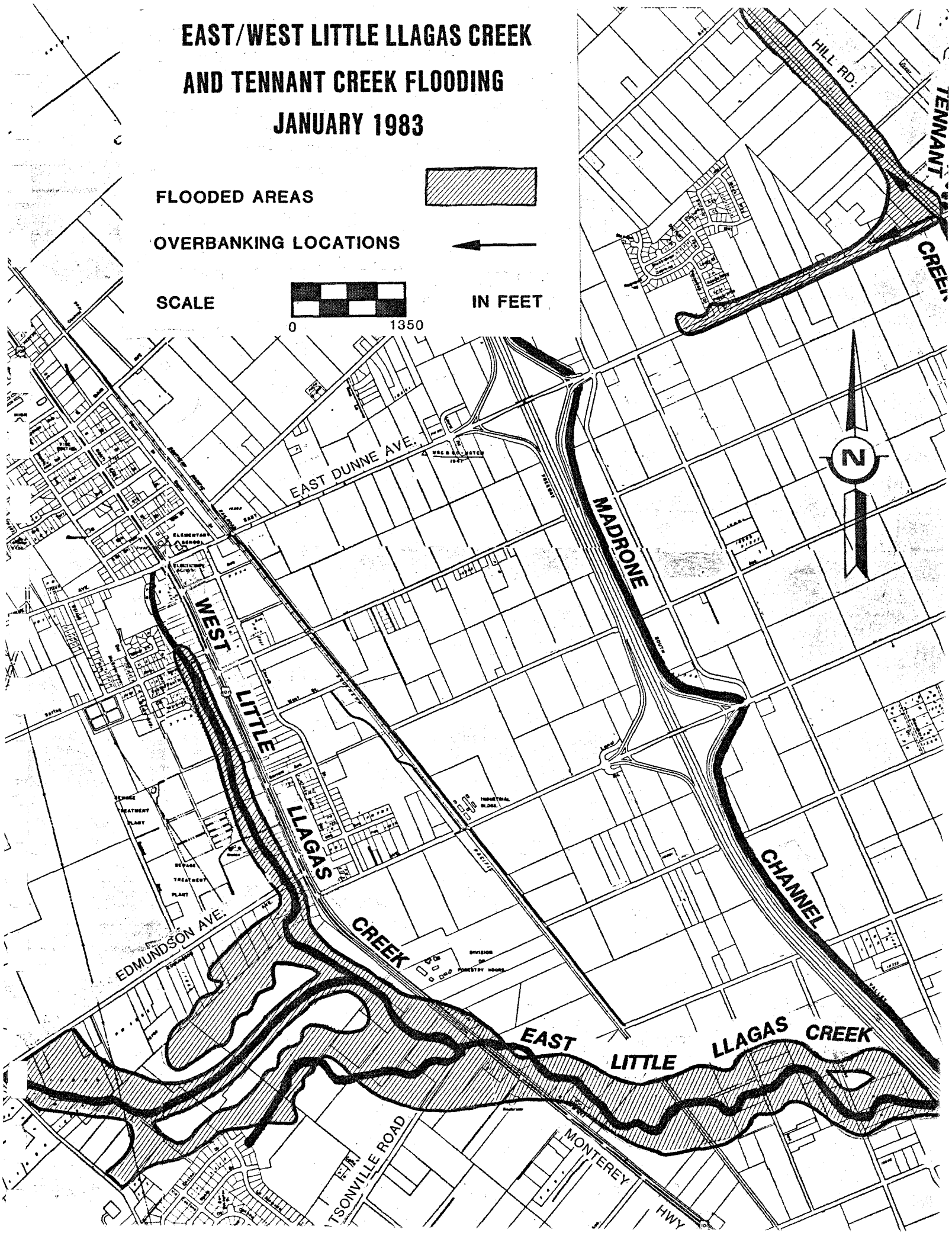
SCALE 0 675 IN FEET

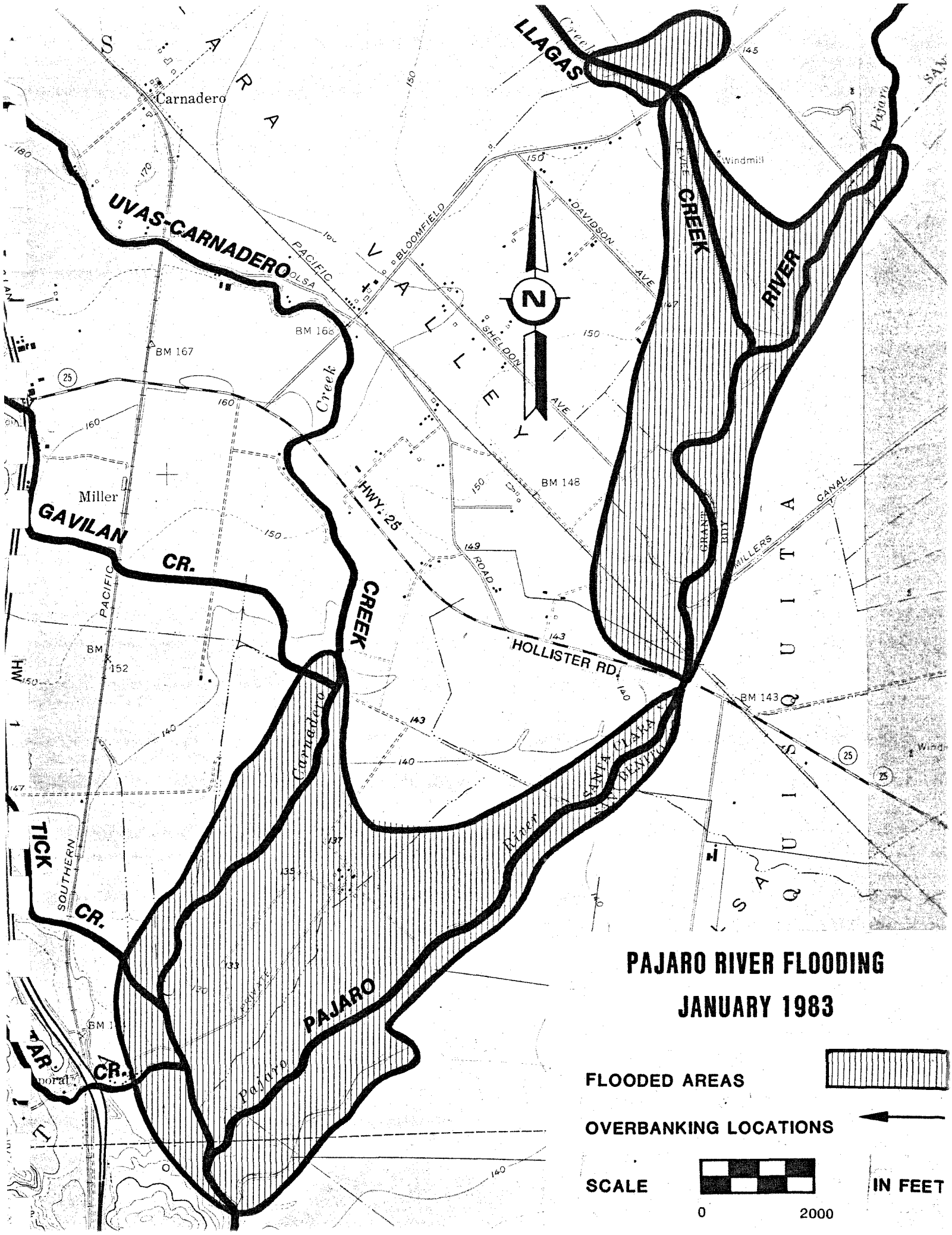


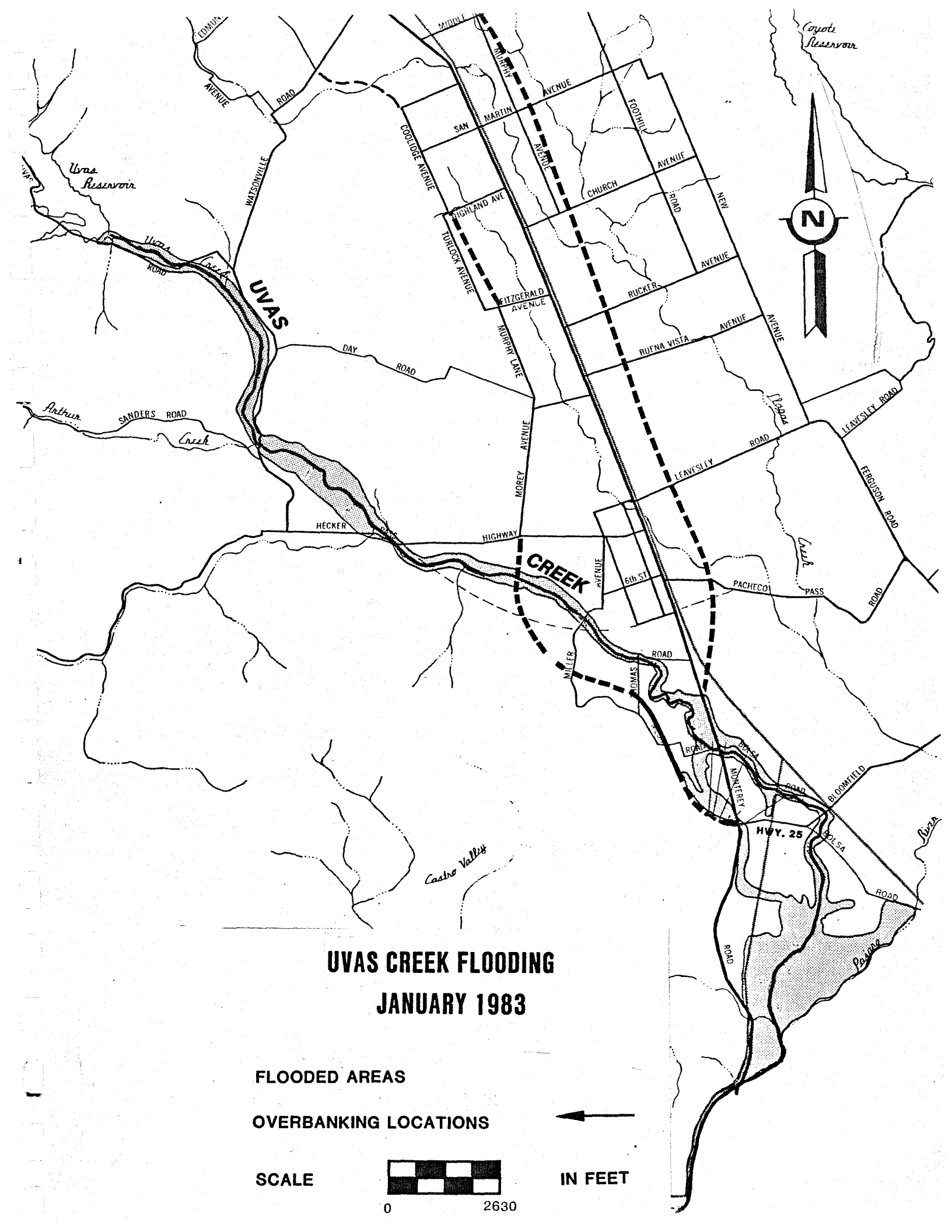

FISHER CREEK FLOODING
JANUARY 1983
FLOODED AREAS
OVERBANKING LOCATIONS
SCALE
IN FEET
0
2520
N
SAN JOSE
FISHER CREEK
Coyote Creek
Coyote Creek County Park
Field Sports Park
SPRR
MONTEREY HIGHWAY
EL CAMINO REAL
SOUTH VALLEY FREEWAY
SANTA TERESA BLVD
BAILEY AVE
TERESA BLVD
HALE AVE
McKean
Park
County
Llagas Creek
101


LLAGAS CREEK
WATERSHED FLOODING
JANUARY 1983
FLOODED AREAS
OVERBANKING LOCATIONS
SCALE
0
2700
IN FEET
N
EAST DUNNE AVE.
TENNANT CR.
FOOTHILL AVE.
MAPLE CR.
CORRALITOS CR.
MIDDLE CR.
COLOMBET CR.
CENTER AVE.
SAN MARTIN CR.
CENTER CR.
NEW CR.
EAST LLAGAS CREEK
LITTLE LLAGAS CREEK
CHURCH AVE.
CHURCH CR.
WEST LLAGAS CREEK
BRANCH
RUCKER AVE.
RUCKER CR.
SKILLET CR.
PANTHER CR.
LIVE OAK CR.
ALAMIAS CR.
LLAGAS CREEK
HWY 101
BUENA VISTA AVE.
LIONS CR.
WEST BRANCH LLAGAS CREEK
N. MOREY CHANNEL
MOREY CHANNEL
LEAVESLEY RD.
FERGUSON ROAD
JONES CR.
SAN YSIDRO CR.
GILROY FOODS INC.
UVAS CREEK
DEXTER CR.
COYOTE LAKE

EAST/WEST LITTLE LLAGAS CREEK AND TENNANT CREEK FLOODING JANUARY 1983

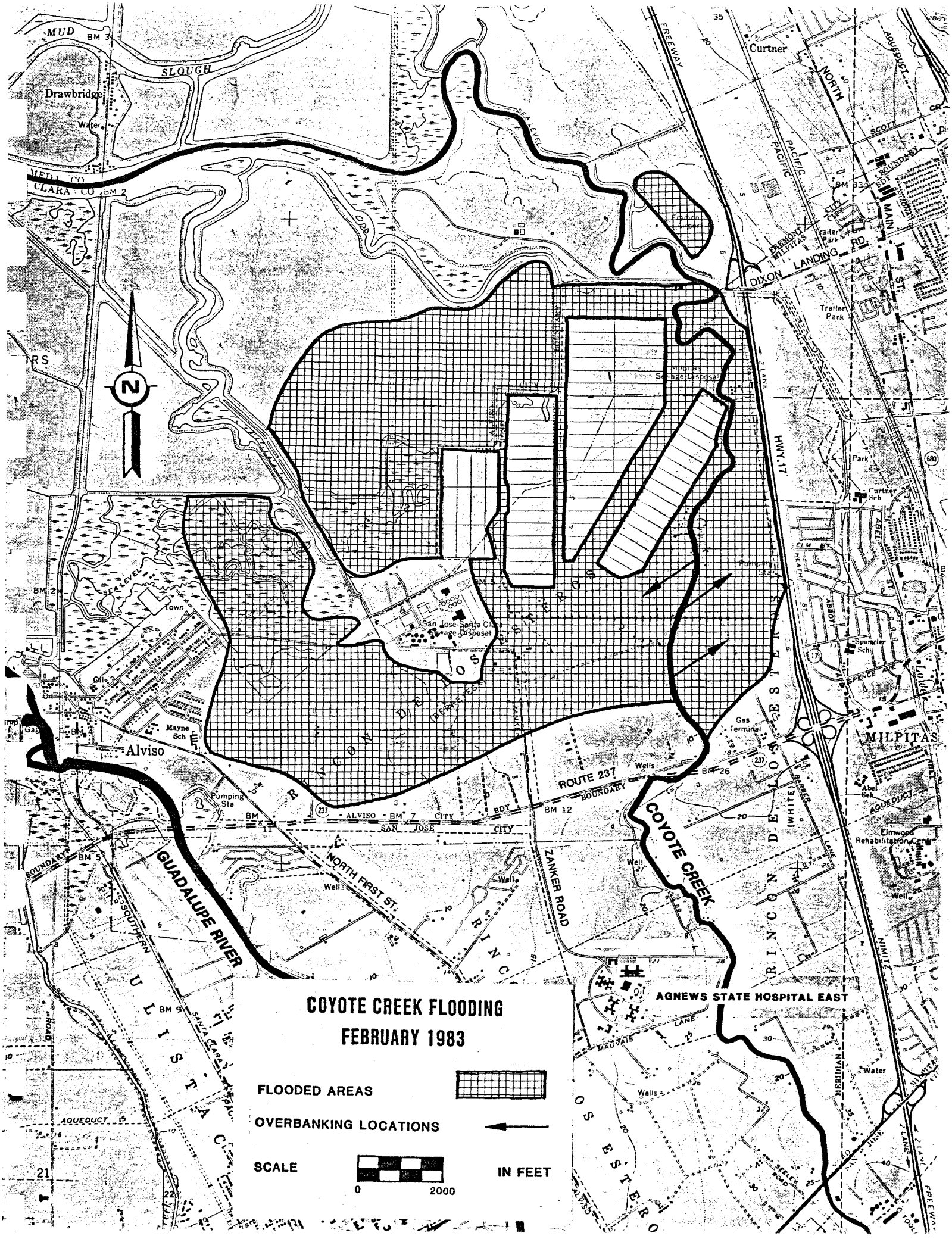



PAJARO RIVER FLOODING
JANUARY 1983
FLOODED AREAS
OVERBANKING LOCATIONS
SCALE
0
2000
IN FEET
LLAGAS
CREEK
RIVER
UVAS-CARNADERO
GAVILAN
CR.
CREEK
TICK
CR.
PAJARO
CR.
HOLLISTER RD.
HWY. 25
BLOOMFIELD
DAVIDSON
AVE.
SHELDON
AVE.
PACIFIC
SOUTHERN
Carnadero
Miller
Windmill
BM 167
BM 166
BM 148
BM 143
BM 152
Creek
Carnadero
Pajaro
River
SANTA CLARA
COUNTY
SAN BENITO
COUNTY
SAQUISQUITA
CANAL
MILLERS
GRAND
DITCH
LEVEE
Payen
S A R A
V A L L E Y
N


UVAS CREEK FLOODING
JANUARY 1983
FLOODED AREAS
OVERBANKING LOCATIONS
SCALE
0
2630
IN FEET
N
UVAS
CREEK
Uvas Reservoir
Coyote Reservoir
Arthur Creek
Castro Valley
Pajaro River
Llagas Creek
EDMUNDS AVENUE
ROAD
WATSONVILLE
MIDDLE
MURPHY AVENUE
SAN MARTIN AVENUE
COOLIDGE AVENUE
FOOTHILL
CHURCH AVENUE
HIGHLAND AVE
TURLOCK AVENUE
NEW ROAD
RUCKER AVENUE
FITZGERALD AVENUE
MURPHY LANE
BUENA VISTA AVENUE
DAY ROAD
SANDERS ROAD
LEAVESLEY ROAD
MOREY AVENUE
FERGUSON ROAD
HECKER HIGHWAY
6th ST
PACHECO PASS
MILLER AVENUE
THOMAS ROAD
MONTEREY ROAD
BLOOMFIELD ROAD
HWY. 25
SOLSA ROAD

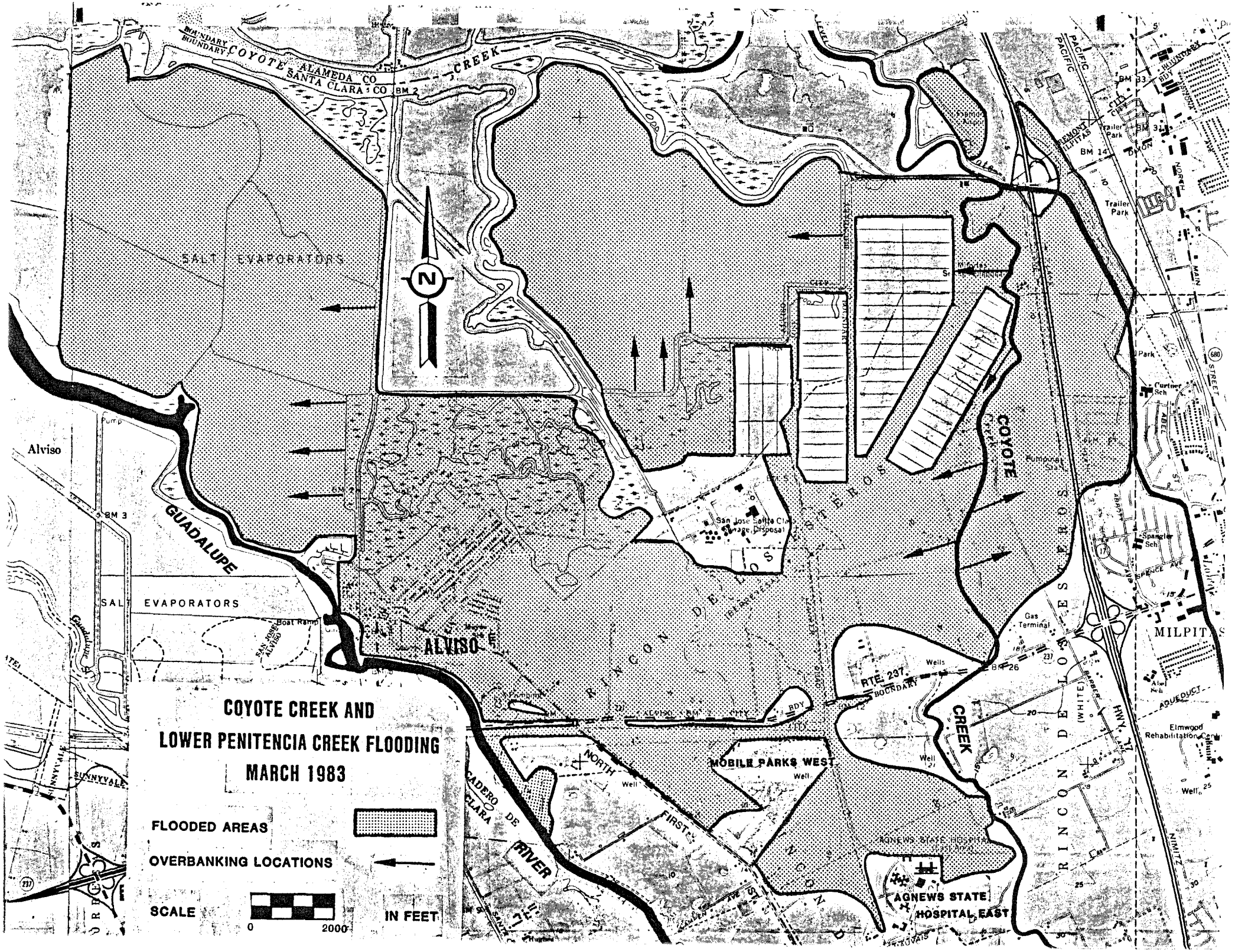
February 5-8, 1983 Flooding

Maps


COYOTE CREEK FLOODING
FEBRUARY 1983
FLOODED AREAS
OVERBANKING LOCATIONS
SCALE
0
2000
IN FEET
GUADALUPE RIVER
COYOTE CREEK
AGNEWS STATE HOSPITAL EAST
MILPITAS
Alviso
Curtner
Drawbridge
MUD SLOUGH
NORTH FIRST ST.
ZANKER ROAD
DIXON LANDING RD
HWY 17
ROUTE 237
SAN JOSE CITY
ALVISO CITY
SOUTHERN PACIFIC
FREEWAY
MAIN ST.
Trailer Park
Curtner Sch
Mayne Sch
Pumping Sta
Gas Terminal
Elmwood Rehabilitation Cent
Abel Sch
Spangler Sch
Water
Wells
Well
Town
Oil
MERIDIAN
NIMITZ
AQUEDUCT
MAUVAIS LANE
SELECT ROAD
SANTA CLARA CO
SEA LEVEL
BM 7
BM 12
BM 26
BM 5
BM 9
BM 2
BM 3
BM 33
21

February 28-March 4, 1983 Flooding

Maps


COYOTE CREEK AND
LOWER PENITENCIA CREEK FLOODING
MARCH 1983
FLOODED AREAS
OVERBANKING LOCATIONS
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SALT EVAPORATORS
COYOTE CREEK
GUADALUPE
ALVISO
Alviso
RINCON DE LOS GUATEROS
RINCON DE LOS GUATEROS
MOBILE PARKS WEST
AGNEWS STATE HOSPITAL EAST
RTE 237
MILPITAS
SUNNYVALE
NORTH FIRST
CADERO DE SANTA CLARA
RIVER
ALAMEDA CO
SANTA CLARA CO
PACIFIC
Trailer Park
Gas Terminal
Elmwood Rehabilitation Center
Curtner Sch
Spangler Sch
Pumping Sta
San Jose Santa Clara Sewage Disposal
Boat Ramp
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STREET
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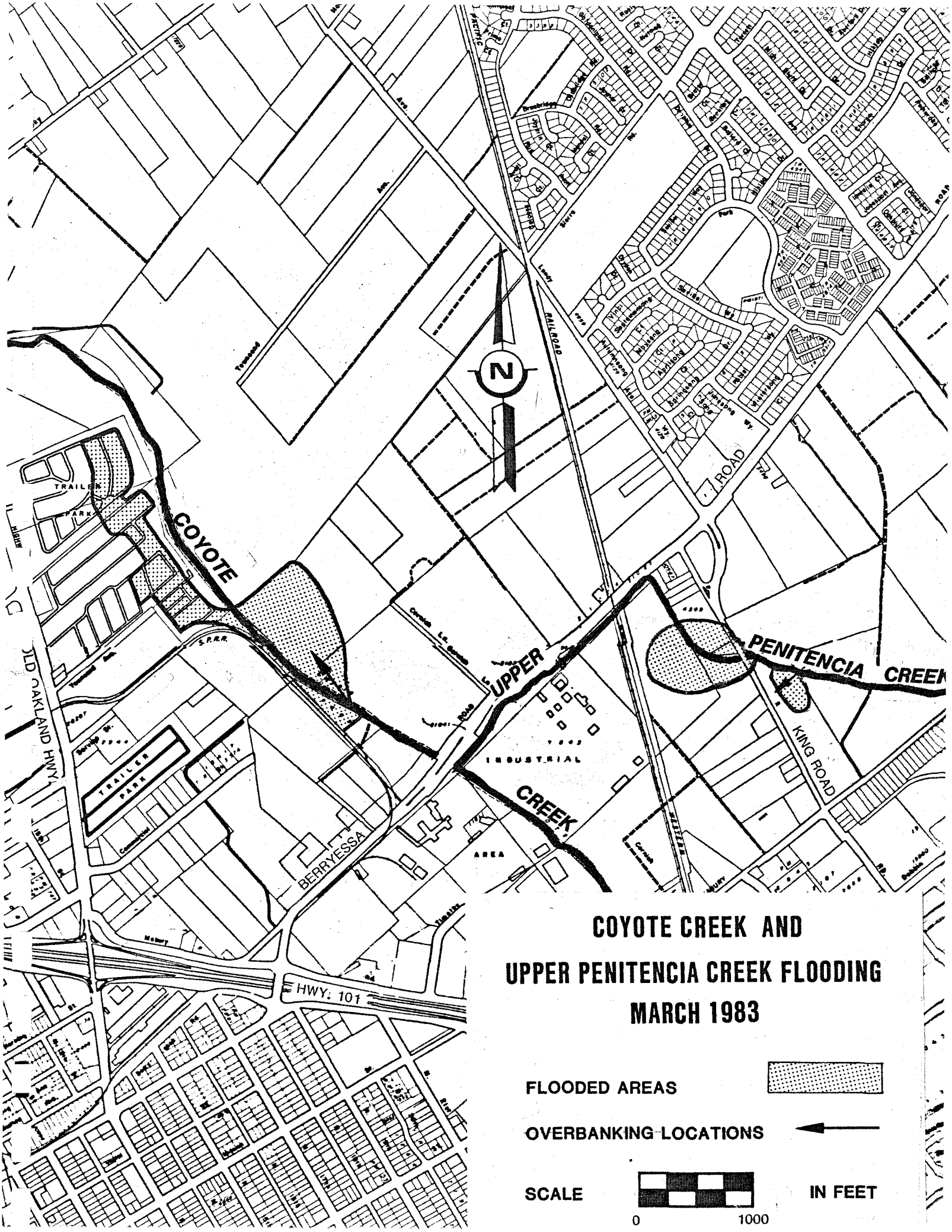
COYOTE CREEK AND
UPPER PENITENCIA CREEK FLOODING
MARCH 1983
FLOODED AREAS
OVERBANKING LOCATIONS
SCALE
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COYOTE
CREEK
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TRAILER PARK
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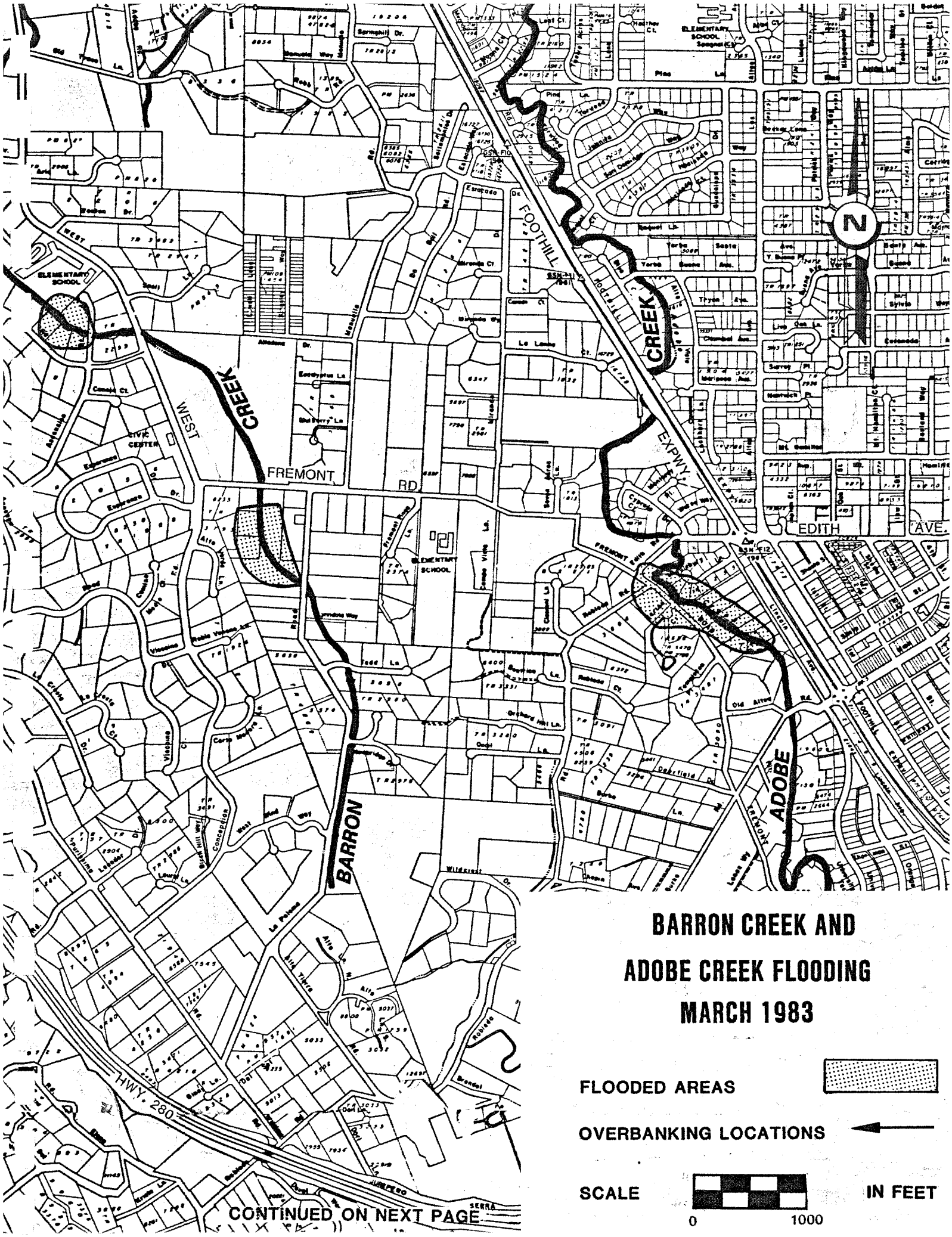
OLD OAKLAND HWY
BERRYESSA
INDUSTRIAL
AREA
HWY. 101
KING ROAD
ROAD
RAILROAD
S.P.R.R.


BARRON CREEK AND
ADOBE CREEK FLOODING
MARCH 1983
FLOODED AREAS
OVERBANKING LOCATIONS
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FREMONT RD
EDITH AVE.
HWY. 280
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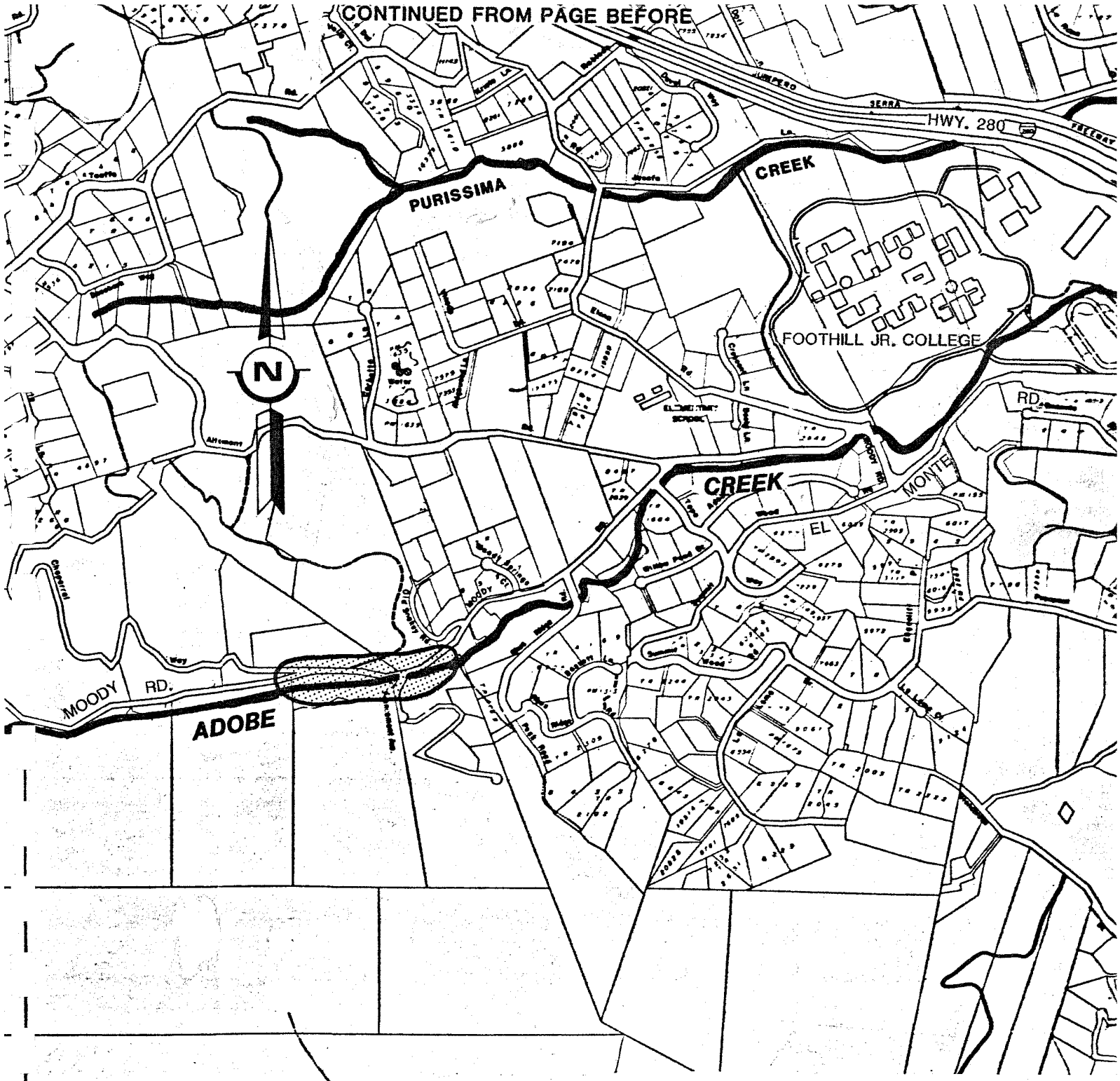
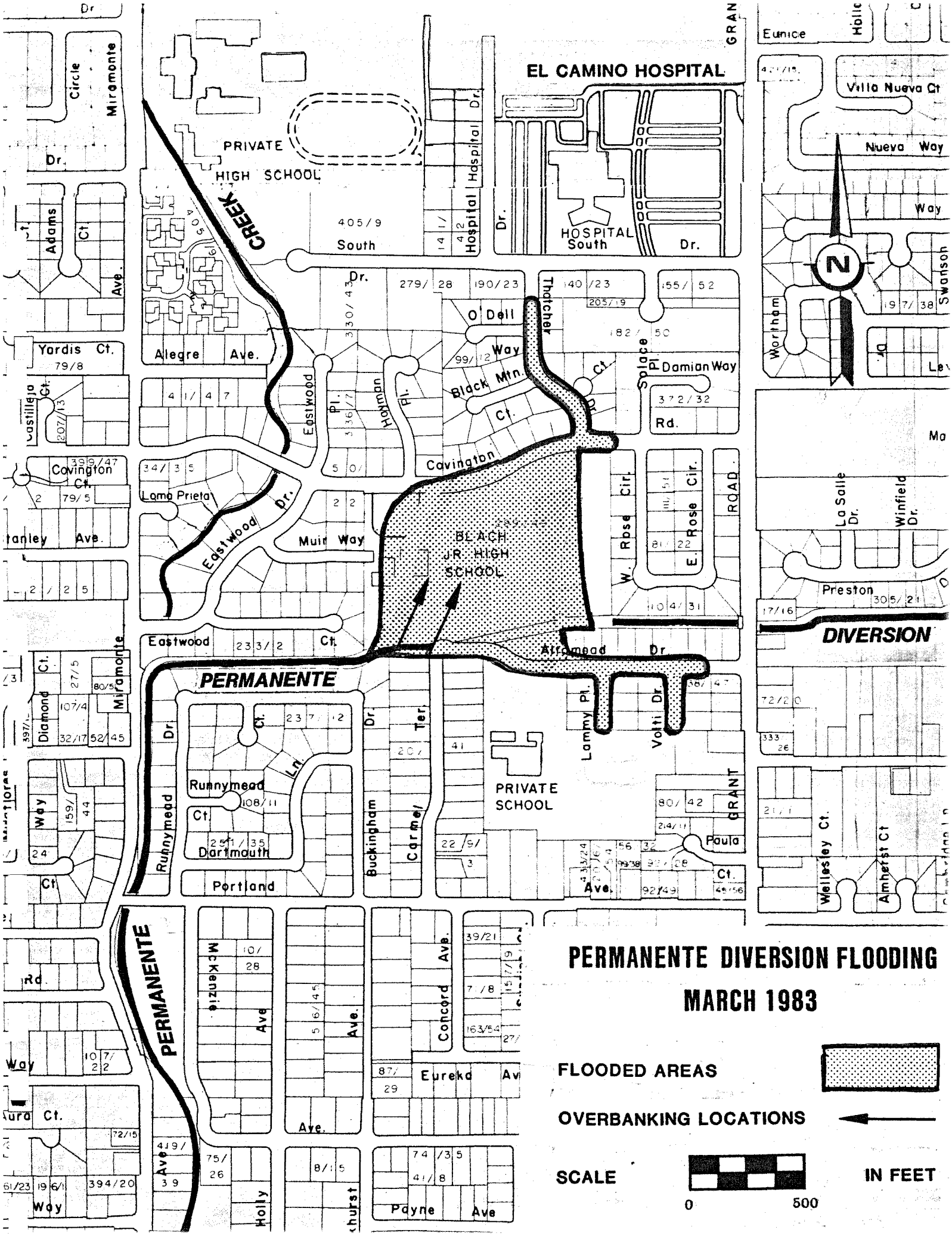


BARRON CREEK AND ADOBE CREEK FLOODING MARCH 1983

FLOODED AREAS

OVERBANKING LOCATIONS

SCALE IN FEET


EL CAMINO HOSPITAL
PRIVATE HIGH SCHOOL
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Hospital
Dr.
CREEK
PERMANENTE
DIVERSION
BLACH JR. HIGH SCHOOL
PRIVATE SCHOOL
Miramonte
Circle
Adams
Ct.
Ave.
Yardis Ct.
Castilleja Ct.
Alegre Ave.
Eastwood
Pl.
Hayman
Pl.
O'Dell
Way
Black Mtn.
Ct.
Thatcher
Splace Pl.
Damian Way
Rd.
Cavington
Covington Ct.
Lama Prieta
Muir Way
W. Rose Cir.
E. Rose Cir.
ROAD
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La Salle Dr.
Winfield Dr.
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Lammy Pl.
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PERMANENTE DIVERSION FLOODING
MARCH 1983
FLOODED AREAS
OVERBANKING LOCATIONS
SCALE
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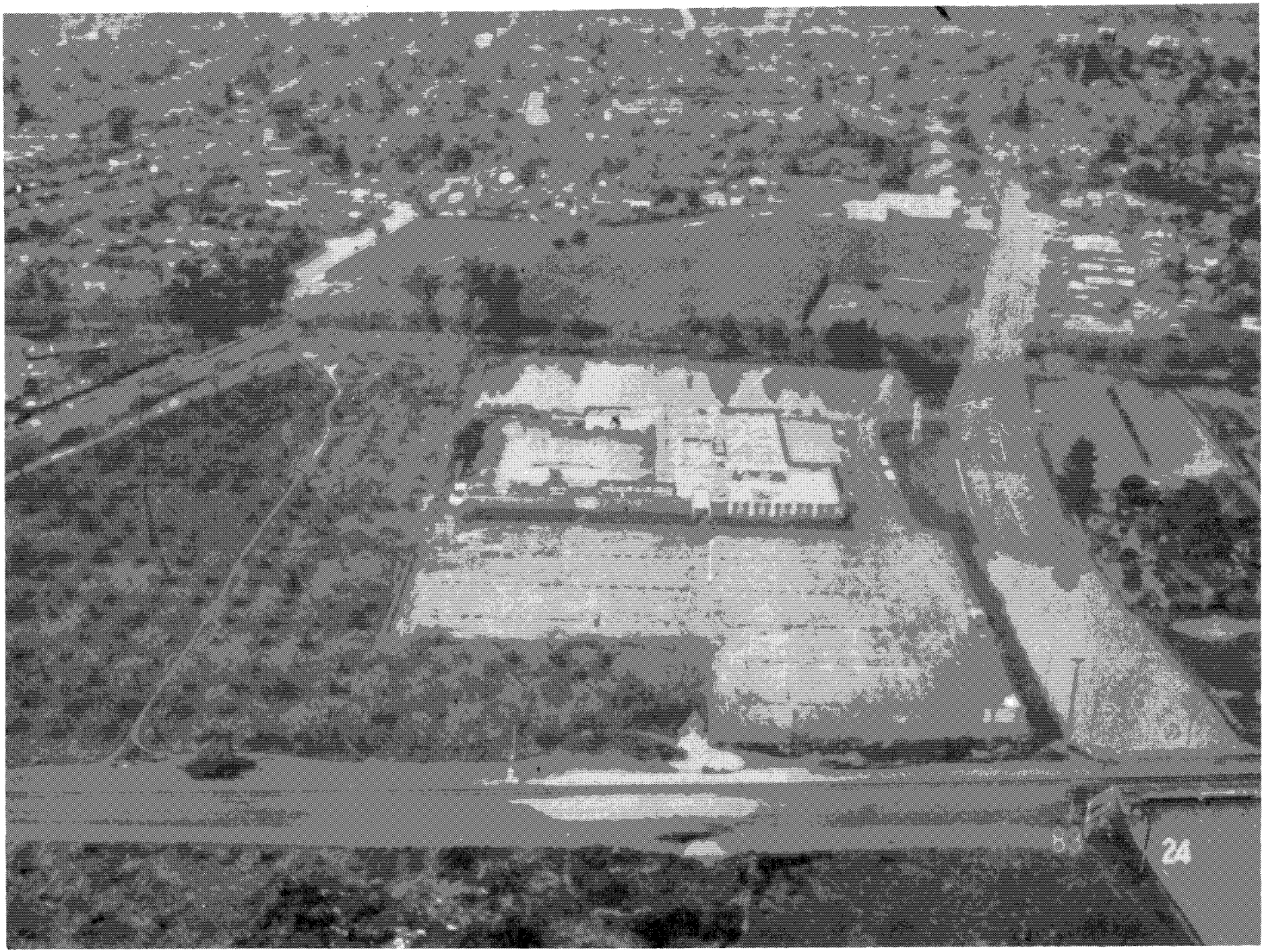
IN FEET

January 22-30, 1983 Flooding

Photographs



GUADALUPE RIVER FLOODING ALMA ST. ELKS CLUB 1/24/83

CALABAZAS CREEK FLOODING MILLER AVE., FOUNTAINBLEU APTS. 1/24/83

SUNNYVALE WEST FLOODING CARIBBEAN 1/27/83

BERRYESSA CREEK FLOODING OLD PIEDMONT RD. 1/22/83

UPPER PENITENCIA CREEK FLOODING BERRYESSA ROAD FLEA MARKET 1/24/83

WEST LITTLE LLAGAS FLOODING SEYMOUR AVE. 1/24/83

EAST LITTLE LLAGAS FLOODING LLAGAS AVE. 1/24/83

UVAS CREEK FLOODING MILLER AVE. 1/24/83

February 5-8, 1983 Flooding

Photographs

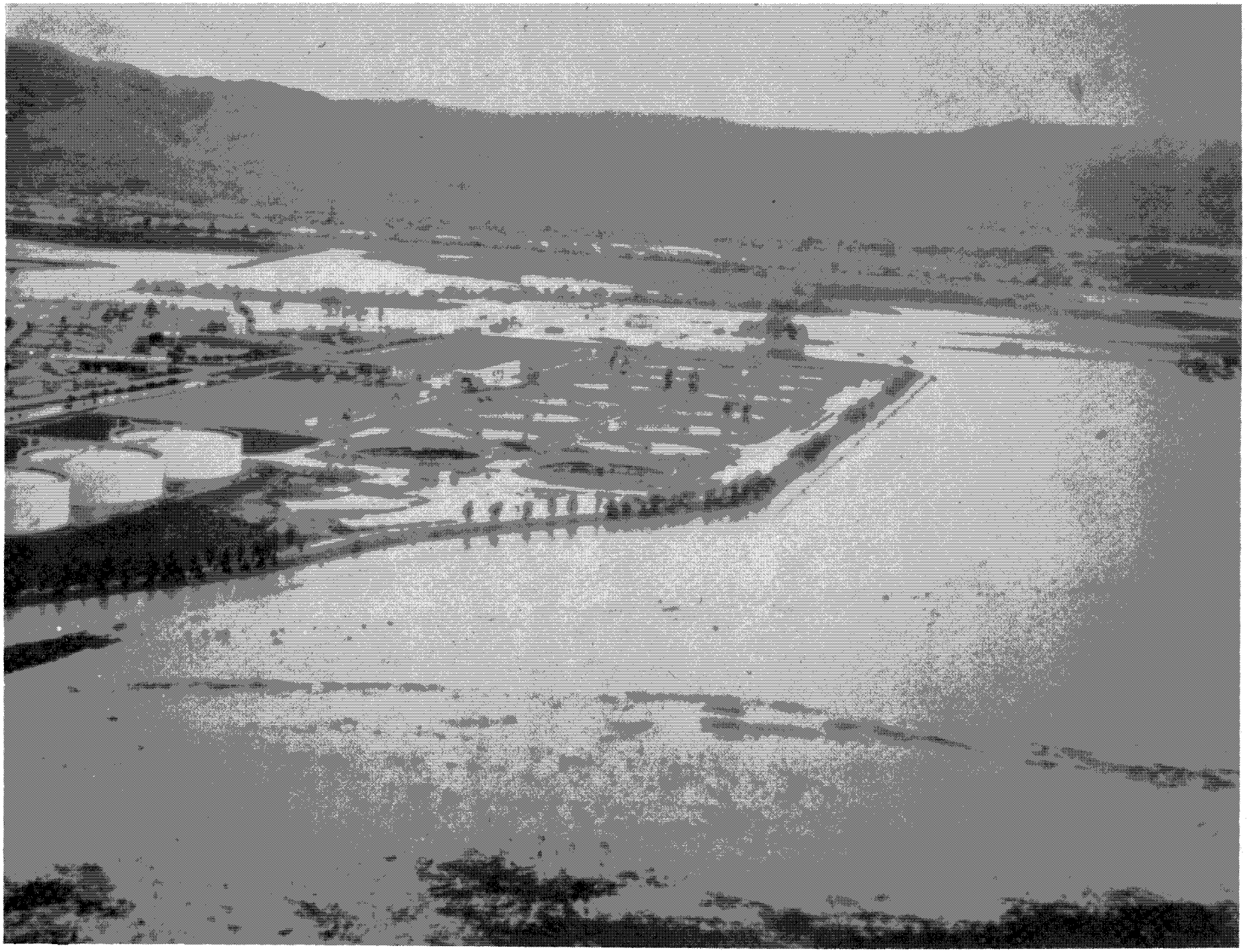
COYOTE CREEK FLOODING SAN JOSE WATER POLLUTION CONTROL PLANT 2/10/83

February 28-March 4, 1983 Flooding

Photographs

COYOTE CREEK AND LOWER PENITENCIA CREEK FLOODING HWY. 17 AT DIXON LANDING RD. 3/1/83

COYOTE CREEK FLOODING ALVISO 3/3/83



COYOTE CREEK FLOODING SAN JOSE WATER POLLUTION CONTROL PLANT 3/1/83

COYOTE CREEK FLOODING MOBILE PARKS WEST 3/2/83

COYOTE CREEK FLOODING SOUTH BAY MOBILE HOME PARK 3/1/83

PERMANENTE DIVERSION 3/2/83

PERMANENTE DIVERSION FLOODING BLACH JUNIOR HIGH SCHOOL 3/2/83